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DICTIONARY FILE UPDATES:   4 JAN 2004  HIGHEST RN 634148-43-9

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=> file hcaplu
FILE 'HCAPLUS' ENTERED AT 11:46:09 ON 06 JAN 2004
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FILE COVERS 1907 - 6 Jan 2004  VOL 140 ISS 2
FILE LAST UPDATED: 5 Jan 2004  (20040105/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> d que
L2              SCR 2043
L3              STR
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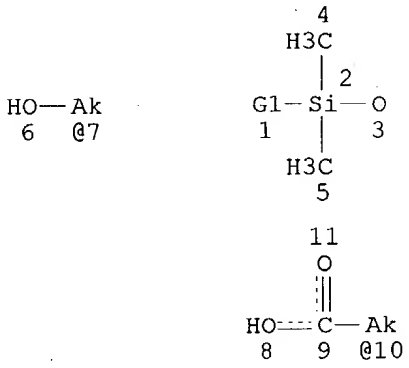


13,280 polymers from query which covers the siloxanes in the specification

VAR G1=CH3/OH/7/10
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 11
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L4	13280	SEA FILE=REGISTRY SSS FUL	L3 AND L2
L5	1	SEA FILE=REGISTRY ABB=ON	SILICA/CN
L6	2	SEA FILE=REGISTRY ABB=ON	TITANIA/CN OR ZINC OXIDE/CN
L7	3	SEA FILE=REGISTRY ABB=ON	CALCIUM CARBONATE/CN OR BARIUM SULFATE/CN OR TALC/CN
L8	19952	SEA FILE=HCAPLUS ABB=ON	L4
L9	132910	SEA FILE=HCAPLUS ABB=ON	SILANE# OR POLYSILOXAN?
L10	981203	SEA FILE=HCAPLUS ABB=ON	L5 OR SIO2 OR SILICA OR TITANIA OR (ZINC OR TITANIUM)(W)OXIDE OR L6 OR L7 OR ZNO OT TIO2 OR CLAY OR DIATOMACEOUS EARTH OR ALUMINA WHITE?
L11	1041167	SEA FILE=HCAPLUS ABB=ON	L10 OR TIO2 OR ZNO
L12	28155	SEA FILE=HCAPLUS ABB=ON	(L8 OR L9) AND L11
L13	313	SEA FILE=HCAPLUS ABB=ON	L12 AND COMPOSITE?(5A)FILL?
L15	69	SEA FILE=HCAPLUS ABB=ON	L13 AND (RUBBER OR ELASTOMER?)/SC,SX,AB,BI
L16	513	SEA FILE=HCAPLUS ABB=ON	WHITE(3A)INORG?
L17	22	SEA FILE=HCAPLUS ABB=ON	L16 AND (L8 OR L9)
L18	6	SEA FILE=HCAPLUS ABB=ON	L17 AND (RUBBER OR ELASTOMER?)/SC,SX,AB,BI
L19	75	SEA FILE=HCAPLUS ABB=ON	L15 OR L18
L21	7255	SEA FILE=HCAPLUS ABB=ON	(L8 OR L9) AND (L11 OR L16) AND (PAINT? OR RESIN#)
L22	129	SEA FILE=HCAPLUS ABB=ON	L21 AND COMPOSITE?(5A)FILL?
L23	48	SEA FILE=HCAPLUS ABB=ON	L22 AND PARTICLE?
L28	379	SEA FILE=HCAPLUS ABB=ON	L8(L)COMPOSITE?
L29	1609	SEA FILE=HCAPLUS ABB=ON	L9(5A)COMPOSITE?
L30	52	SEA FILE=HCAPLUS ABB=ON	(L19 OR L23) AND (L28 OR L29)
L31	31	SEA FILE=HCAPLUS ABB=ON	L30 AND PARTICLE?

=> d l31 all 1-31 hitstr

L31 ANSWER 1 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:473021 HCAPLUS
DN 139:38049
ED Entered STN: 20 Jun 2003
TI Silicone **rubber**-coated composite high voltage electrical insulator
IN Ahmed, Farooq; Huda, Faisal; Huda, Seraj Ul; Barr, John
PA Can.
SO U.S. Pat. Appl. Publ., 7 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM C08F008-00
NCL 427387000
CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): **39**, 76
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2003113461	A1	20030619	US 2001-14790	20011214
WO 2003051995	A1	20030626	WO 2002-CA1920	20021216

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

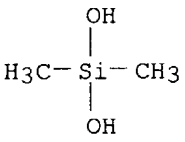
PRAI US 2001-14790 A2 20011214
OS MARPAT 139:38049
AB The present invention relates to a one-part room temperature vulcanizable organopolysiloxane **rubber** composition which is VOC-free and crosslinks in the presence of moisture to form a coating for the protection of composite high voltage electrodes. The one-part organopolysiloxane **rubber** composition comprises the product which is obtained by mixing the following: (a) 20-60% of one or more polydiorganosiloxane fluids having a viscosity 10-100,000 cP at 25°; (b) 0-40% of a cyclo-organosiloxane; (c) 0-40% of an inorg. extending or non-reinforcing filler; (d) 0.5-15% of an amorphous **SiO2** reinforcing filler; (e) 1-7% of an oximinosilane crosslinking agent; (f) 0.2-3% of an adhesion promoter; (g) 0.02-3% of an organotin salt as a condensation catalyst; and (h) 20-50% of alumina trihydrate, the alumina trihydrate having a median **particle** size of 10 μm to 30 μm, containing 65.1 percent Al2O3 , 34.5% combined H2O, 0.3% Na 2 O, 0.02% CaO, 0.01% **SiO2** and having a sp. gr. of 2.42.
ST silicone **rubber** protective coating high voltage insulator
IT Cyclosiloxanes
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(di-Me; silicone **rubber**-coated composite high voltage elec. insulator)
IT Electric insulators
(high-voltage; silicone **rubber**-coated composite high voltage elec. insulator)

IT Condensation reaction catalysts
(organotin salt; silicone **rubber**-coated composite high voltage elec. insulator)
IT Crosslinking agents
(oximinosilane; silicone **rubber**-coated composite high voltage elec. insulator)
IT Adhesion promoters
Coating materials
(silicone **rubber**-coated composite high voltage elec. insulator)
IT Cyclosiloxanes
Silicone **rubber**, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(silicone **rubber**-coated composite high voltage elec. insulator)
IT 1760-24-3, N-(2-Aminoethyl-3-aminopropyl) trimethoxysilane
RL: MOA (Modifier or additive use); USES (Uses)
(adhesion promoter; silicone **rubber**-coated composite high voltage elec. insulator)
IT **31900-57-9D**, Dimethylsilanediol homopolymer, hydroxy-terminated
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(assumed monomers; silicone **rubber**-coated **composite** high voltage elec. insulator)
IT 22984-54-9, Methyl tris-(methyl ethyl ketoxime)**silane**
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agent; silicone **rubber**-coated **composite** high voltage elec. insulator)
IT **7631-86-9, Silica**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(reinforcing **filler**; silicone **rubber**-coated **composite** high voltage elec. insulator)
IT 301-10-0, Stannous octoate 1067-33-0, Dibutyltindiacetate 4731-77-5, Dibutyltin dioctoate
RL: CAT (Catalyst use); USES (Uses)
(silicone **rubber**-coated composite high voltage elec. insulator)
IT 21645-51-2, Alumina trihydrate, uses
RL: MOA (Modifier or additive use); USES (Uses)
(silicone **rubber**-coated composite high voltage elec. insulator)
IT **31692-79-2**, Hydroxy-terminated dimethyl **polysiloxane**
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(silicone **rubber**-coated **composite** high voltage elec. insulator)
IT **31900-57-9D**, Dimethylsilanediol homopolymer, hydroxy-terminated
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(assumed monomers; silicone **rubber**-coated **composite** high voltage elec. insulator)
RN 31900-57-9 HCAPLUS
CN Silanediol, dimethyl-, homopolymer (9CI) (CA INDEX NAME)

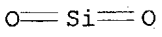
CM 1

CRN 1066-42-8

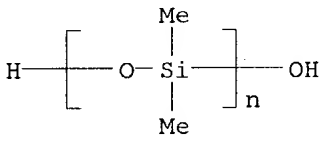
CMF C2 H8 O2 Si



IT **7631-86-9, Silica,** uses
RL: MOA (Modifier or additive use); USES (Uses)
(reinforcing **filler;** silicone **rubber**-coated **composite** high voltage elec. insulator)
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT **31692-79-2,** Hydroxy-terminated dimethyl **polysiloxane**
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(silicone **rubber**-coated **composite** high voltage elec. insulator)
RN 31692-79-2 HCAPLUS
CN Poly[oxy(dimethylsilylene)], α-hydro-ω-hydroxy- (8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 2 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:273675 HCAPLUS
DN 139:399633
ED Entered STN: 09 Apr 2003
TI The effect of filler and **silane** content on conversion of **resin**-based composite
AU Halvorson, Rolf H.; Erickson, Robert L.; Davidson, Carel L.
CS 3M Dental Products, St Paul, MN, 55144-1000, USA
SO Dental Materials (2003), 19(4), 327-333
CODEN: DEMAEP; ISSN: 0109-5641
PB Elsevier Science B.V.
DT Journal
LA English
CC 63-7 (Pharmaceuticals)
AB This study examines the influence of filler loading and **silane** content on the conversion of photoactivated, **resin**-based composites as determined using Fourier transform IR spectroscopy (FTIR). Zirconia/**silica** filler was processed with a **silane** coupling agent (γ-methacryloxypropyltrimethoxysilane) to achieve a

range of **silane**-to-filler compns. Treated fillers were compounded with a photoactivated BisGMA/TEGDMA **resin** to yield a series of pastes all containing 72% total solids. Diffuse reflectance FTIR was used to characterize methacrylate unsatn. of the **silane** on the filler **particles** while paste conversion was determined using transmission FTIR. A **resin** matrix conversion was determined by adjusting the paste conversion for **silane** unsatn. Two addnl. series of pastes were compounded to achieve variable filler-to-**resin** ratios using non-treated filler and filler processed with 8% **silane**. Paste conversion was determined using transmission FTIR. Pastes compounded from fillers containing variable percent **silane** demonstrated linearly decreasing conversion (R2=0.986) with increasing **silane** content and ranged from 52.7 to 62.8%. Adjusting paste conversion for **silane** unsatn. yielded similar **resin** matrix conversion for all cured pastes (65.1±0.8%). Pastes compounded with increasing filler-to-**resin** ratios had progressively decreasing conversion. Correcting for **silane** unsatn. suggests this effect was independent of whether the filler was **silane** -treated or not. Composite **resin** matrix conversion as determined via FTIR can be underestimated by the presence of unreacted methacrylate from **silane** on the filler. A corrected **resin** matrix conversion can be estimated by adjusting for **silane** unsatn. Addnl., increasing filler-to-**resin** ratio progressively decreases conversion independent of the presence of **silane** on the filler.

ST zirconia **silica silane** dental **composite**

IT Dental materials and appliances
(**composites**; effect of **filler** and **silane** content on conversion of **resin**-based composite)

IT 2530-85-0, γ-Methacryloxypropyltrimethoxysilane
RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(effect of filler and **silane** content on conversion of **resin**-based composite)

IT 109-16-0, TEGDMA 1314-23-4, Zirconia, biological studies 1565-94-2, BisGMA **7631-86-9, Silica**, biological studies
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(effect of filler and **silane** content on conversion of **resin**-based composite)

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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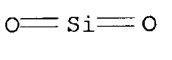
IT **7631-86-9**, **Silica**, biological studies
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(effect of filler and **silane** content on conversion of **resin**-based composite)

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 3 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:925338 HCAPLUS
DN 138:5649
ED Entered STN: 06 Dec 2002
TI Composite **particles**, and tread **rubber** composition, paint and resin compositions using the same
IN Hayashi, Kazuyuki; Morii, Hiroko; Iwasaki, Keisuke; Ohsugi, Mineko; Shimohata, Yusuke
PA Toda Kogyo Corporation, Japan
SO Eur. Pat. Appl., 108 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C09C001-04
ICS C09C001-30; C09C001-36
CC 42-6 (Coatings, Inks, and Related Products)
Section cross-reference(s): **39**
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1262528	A2	20021204	EP 2002-253414	20020515
	EP 1262528	A3	20030115		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2002338846	A2	20021127	JP 2001-146940	20010516
	JP 2003147228	A2	20030521	JP 2001-348147	20011114
	JP 2003160744	A2	20030606	JP 2001-360293	20011127
PRAI	JP 2001-146940	A	20010516		
	JP 2001-348147	A	20011114		
	JP 2001-360293	A	20011127		

AB Composite **particles** which have an average **particle** diameter of from 0.001 to 12.0 μm, and which comprise: (a) **white inorg.** core **particles**; (b) a gluing agent-coating layer provided on at least a part of the surface of said **white inorg.** core **particles**; and (c) a black pigment coat which is composed of carbon black, and/or aniline black and which is provided on at least a part of the gluing agent-coating layer in an amount of from 1 to 500 parts by weight per 100 parts by weight of said **white inorg.** core **particles**. The coating layer (i) comprising at least one compound selected from hydroxides of aluminum, oxides of aluminum, hydroxides of silicon and oxides of silicon, is disposed between the surface of the **white inorg.** core **particles** (a) and the gluing agent-coating layer (b). The **white inorg.** core **particles** are anhydrous silicic acid powder, hydrous silicic acid powder and silicate powder, silica gel, diatomaceous earth powder, clay, calcium carbonate, barium sulfate, talc or alumina white.

ST coating pigment composite **particle** prepn

IT Carbon black, uses
Clays, uses
Diatomite
Silica gel, uses
Silicates, uses
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(in preparation of composite **particles** for tread **rubber** composition, paint and resin compns.)

IT Fatty acids, uses
Polysiloxanes, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(in preparation of **composite particles** for tread **rubber** composition, paint and resin compns.)

IT Paints
Pigments, nonbiological
(preparation of composite **particles** for tread **rubber** composition, paint and resin compns.)

IT **Rubber**, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); PROC (Process); USES (Uses)
(preparation of composite **particles** for tread **rubber** composition, paint and resin compns.)

IT Fatty acids, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical

process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(salts; in preparation of composite **particles** for tread **rubber** composition, paint and resin compns.)

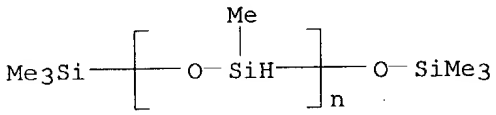
IT 471-34-1, Calcium carbonate, uses 1314-13-2, Zinc oxide, uses 1343-98-2, Silicic acid 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 7727-43-7, Barium sulfate 13007-86-8, Aniline black 13463-67-7, Titania, uses 14807-96-6, Talc, uses
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(in preparation of composite **particles** for tread **rubber** composition, paint and resin compns.)

IT 557-04-0, Magnesium stearate 1592-23-0, Calcium stearate
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(in preparation of composite **particles** for tread **rubber** composition, paint and resin compns.)

IT 780-69-8, Phenyl triethoxysilane 919-30-2, γ-Aminopropyl triethoxysilane 1112-39-6, Dimethyl dimethoxysilane 2031-67-6, Methyl triethoxysilane 4420-74-0, γ-Mercaptopropyl trimethoxysilane **26403-67-8**, TSF484
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(in preparation of **composite particles** for tread **rubber** composition, paint and resin compns.)

IT **26403-67-8**, TSF484
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(in preparation of **composite particles** for tread **rubber** composition, paint and resin compns.)

RN 26403-67-8 HCAPLUS
CN Poly[oxy(methylsilylene)], α-(trimethylsilyl)-ω-[(trimethylsilyl)oxy]- (9CI) (CA INDEX NAME)



L31 ANSWER 4 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:901036 HCAPLUS
DN 137:385847
ED Entered STN: 27 Nov 2002
TI Black **composite filling** materials and tread **rubber** compositions therewith
IN Hayashi, Kazuyuki; Shimohata, Yusuke; Osugi, Mineko; Morii, Hiroko
PA Toda Kogyo Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09C001-30

applicants

ICS B60C001-00; C08K009-06; C08L021-00; C09C003-12
CC 39-13 (Synthetic **Elastomers** and Natural **Rubber**)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002338846	A2	20021127	JP 2001-146940	20010516
	US 2003105213	A1	20030605	US 2002-142946	20020513
	EP 1262528	A2	20021204	EP 2002-253414	20020515
	EP 1262528	A3	20030115		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	CN 1385475	A	20021218	CN 2002-119921	20020516
PRAI	JP 2001-146940	A	20010516		
	JP 2001-348147	A	20011114		
	JP 2001-360293	A	20011127		

AB Title materials, showing high dispersibility, are composite **SiO2** **particles** with average diameter of 0.001-0.5 μm and consisting of **SiO2**, alkoxysilane and/or **polysiloxane** coverings, and 1-103% (based on 100 parts **SiO2**) carbon black. A composition containing SBR 100, S 1.8, and 0.023-μm **composite filler** (consisting of **SiO2**, 0.78% TSF 484, and 33.11% carbon black) 50 parts was vulcanized at 160° for 20 min to form a test piece with resistivity 3.6 + 104 Ω-cm, color deviation 4.2, and wear resistance 106%; vs., 2.8 + 102, 5.3, and 100, resp., using carbon black instead of the black composite.

ST tire tread **rubber** black **composite filler** dispersibility; **silica** carbon black **polysiloxane** **composite filler** **rubber** tread

IT **Silanes**
RL: TEM (Technical or engineered material use); USES (Uses)
(alkoxy; carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

IT Fillers
(carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

IT Styrene-butadiene **rubber**, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

IT Carbon black, uses
Polysiloxanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

IT Fatty acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(salts, treating agents for black **composite particles**; carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

IT Tires
(treads; carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and

wear resistance)

IT Coupling agents
(treating agents for black **composite particles**; carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

IT Fatty acids, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(treating agents for black **composite particles**; carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

IT **26403-67-8**, TSF 484
RL: TEM (Technical or engineered material use); USES (Uses)
(TSF 484; carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

IT 780-69-8, Phenyltriethoxysilane 1185-55-3, Methyltrimethoxysilane 2031-67-6, Methyltriethoxysilane **7631-86-9**, **Silica**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

IT 9003-55-8
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(styrene-butadiene **rubber**, carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

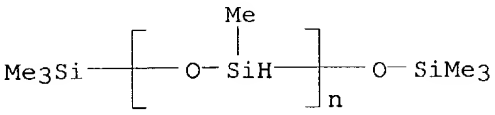
IT 1343-98-2, Silicon hydroxide 1344-28-1, Alumina, uses 10043-01-3, Aluminum sulfate 11138-49-1, Sodium aluminate 21645-51-2, Aluminum hydroxide, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(treating agent for **SiO2**; carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

IT 557-04-0, Magnesium stearate 1592-23-0, Calcium stearate 2530-85-0, 3-Methacryloxypropyltrimethoxysilane
RL: TEM (Technical or engineered material use); USES (Uses)
(treating agents for black **composite particles**; carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

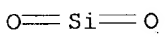
IT **26403-67-8**, TSF 484
RL: TEM (Technical or engineered material use); USES (Uses)
(TSF 484; carbon black- and **polysiloxane**-covered **SiO2** **composite fillers** for tread rubbers for light and wear resistance)

RN 26403-67-8 HCAPLUS

CN Poly[oxy(methylsilylene)], α-(trimethylsilyl)-ω-[(trimethylsilyl)oxy]- (9CI) (CA INDEX NAME)



IT **7631-86-9, Silica,** uses
RL: TEM (Technical or engineered material use); USES (Uses)
(carbon black- and **polysiloxane**-covered **SiO2**
composite fillers for tread rubbers for light and
wear resistance)
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 5 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:516686 HCAPLUS
DN 137:83708
ED Entered STN: 11 Jul 2002
TI Dental **composite** materials containing **silica**
filler
IN Jia, Weitao; Jin, Shuhua
PA Jenerica/Pentron Incorporated, USA
SO U.S., 4 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM A61F002-00
NCL 523113000
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 38
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6417246	B1	20020709	US 2000-660111	20000912
PRAI US 1999-155292P	P	19990921		

AB A polymerizable dental composition comprises (i) a polymerizable **resin** composition, and (ii) a filler composition comprising a bound, nanostructured colloidal **silica**. **Silica** is in the form of **particles** having their largest dimension in the range of about 10-50 nm. For example, a base **resin** mixture was prepared, comprising EBPDMA and PCDMA in a ratio of 70:30 by weight, and further comprising 0.2 weight% of camphorquinone and 0.4 weight % of DEAEMA. Elongated, bound colloidal **silica** in the form of 20 weight% methanol solution (MA-ST-UP) was blended with the above base **resin** mixture so as to provide 0-20 weight% of the **silica**. Some **silica** was silanated by treatment with 10 weight% γ-(methacryloyloxy)propyl trimethoxy **silane** based on the total amount of **silica**. After stirring with the **silica**/base **resin** mixture for an hour, the methanol was removed under vacuum.
ST dental **composite** polymerizable **resin** colloidal
silica filler

IT Polycarbonates, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(acrylic; dental composites containing polymerizable **resins** and colloidal **silica** filler)
IT Dental materials and appliances
(composites; dental composites containing polymerizable **resins** and colloidal **silica** filler)
IT **Particle** size
(**filler**; dental **composites** containing polymerizable **resins** and colloidal **silica** filler)
IT Dental materials and appliances
(**fillings**; dental **composites** containing polymerizable **resins** and colloidal **silica** filler)
IT Acrylic polymers, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polycarbonate-; dental composites containing polymerizable **resins** and colloidal **silica** filler)
IT Dental materials and appliances
(**resins**; dental composites containing polymerizable **resins** and colloidal **silica** filler)
IT **Silanes**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**silica** treated with; dental **composites** containing polymerizable **resins** and colloidal **silica** filler)
IT **7631-86-9, Silica**, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(colloidal; dental composites containing polymerizable **resins** and colloidal **silica** filler)
IT 105-16-8, N,N-Diethylaminoethyl methacrylate 41637-38-1, Ethoxylated bisphenol A dimethacrylate
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dental composites containing polymerizable **resins** and colloidal **silica** filler)
IT 2530-85-0, γ-(Methacryloyloxy)propyl trimethoxy **silane**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**silica** treated with; dental **composites** containing polymerizable **resins** and colloidal **silica** filler)
RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Bilkadi; US 4885332 A 1989 HCAPLUS
(2) Bowen; US 3066112 A 1962 HCAPLUS
(3) Bowen; US 3179623 A 1965 HCAPLUS
(4) Bowen; US 3194784 A 1965
(5) Kuhlman; US 4649165 A 1987 HCAPLUS
(6) Lee; US 3751399 A 1973 HCAPLUS
(7) Lee; US 3926906 A 1975 HCAPLUS
(8) Olson; US 4491508 A 1985 HCAPLUS
(9) Phule; US 5985168 A 1999 HCAPLUS
(10) Revis; US 5126394 A 1992 HCAPLUS
(11) Waknine; US 4544359 A 1985 HCAPLUS
(12) Waknine; US 4547531 A 1985 HCAPLUS
(13) Waknine; US 5276068 A 1994 HCAPLUS
(14) Waknine; US 5444104 A 1995 HCAPLUS
IT **7631-86-9, Silica**, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(colloidal; dental composites containing polymerizable **resins** and colloidal **silica** filler)
RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L31 ANSWER 6 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:169156 HCAPLUS
DN 136:201908
ED Entered STN: 08 Mar 2002
TI Composite **particles**, process for producing the same, and pigment, paint and resin composition using the same
IN Hayashi, Kazuyuki; Ohsugi, Mineko; Iwasaki, Keisuke; Morii, Hiroko
PA Toda Kogyo Corporation, Japan
SO Eur. Pat. Appl., 185 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C09C003-12
ICS C09C003-00
CC 42-6 (Coatings, Inks, and Related Products)
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1184426	A2	20020306	EP 2001-307384	20010830
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CN 1342731	A	20020403	CN 2001-131101	20010830
	JP 2002356625	A2	20021213	JP 2001-262297	20010830
PRAI	JP 2000-265758	A	20000901		
	JP 2001-101082	A	20010330		
	JP 2001-170199	A	20010605		

AB Composite **particles** which have an average **particle** diameter of from 0.001 to 10.0 μm, comprising: (i) **white inorg**. **particles** as core **particles** (e.g., TiO2); (ii) a gluing agent coating layer provided on the surface of the **white inorg**. **particles** (e.g., triethoxymethylsilane); and (iii) an organic pigment coat provided on the gluing agent coating layer in an amount of from 1 to 500 parts based on 100 parts of the **white inorg**. **particles**. The composite **particles** may be used in a paint or a **rubber** or resin composition

ST composite **particle** pigment **white inorg** colored org

IT **Polysiloxanes**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(Me hydrogen; composite **particles**, process for producing the same, and pigment, paint and resin composition using the same)

IT Alkyd resins
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(amino-containing; composite **particles**, process for producing the same, and pigment, paint and resin composition using the same)

IT Coupling agents
Paints
Pigments, nonbiological
(composite **particles**, process for producing the same, and pigment, paint and resin composition using the same)

IT Aminoplasts
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(composite **particles**, process for producing the same, and pigment, paint and resin composition using the same)
IT **Polysiloxanes**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**composite particles**, process for producing the same, and pigment, paint and resin composition using the same)
IT Mica-group minerals, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(pearl; composite **particles**, process for producing the same, and pigment, paint and resin composition using the same)
IT 9002-86-2, 103EP8D 9003-08-1, S 695 34215-82-2, S-118
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(composite **particles**, process for producing the same, and pigment, paint and resin composition using the same)
IT 780-69-8, Phenyl triethoxysilane 919-30-2, Aminopropyl triethoxysilane 1112-39-6, Dimethyl dimethoxysilane 1314-13-2, Zinc oxide, uses 1344-09-8, Water glass 2031-67-6, TSL8123 7631-86-9, Silica, uses 7727-43-7, Bariumsulfate 9002-89-5, Polyvinyl alcohol 9004-73-3, Poly[oxy(methylsilylene)] 10043-01-3, Aluminum sulfate 11138-49-1, Sodium aluminate 13463-67-7, Titanium oxide, uses 49718-23-2, Methylsilanediol homopolymer 61417-49-0, Isopropyltriisostearoyl titanate
RL: TEM (Technical or engineered material use); USES (Uses)
(composite **particles**, process for producing the same, and pigment, paint and resin composition using the same)
IT 574-93-6D, Phthalocyanine, derivs.
RL: TEM (Technical or engineered material use); USES (Uses)
(pigment; composite **particles**, process for producing the same, and pigment, paint and resin composition using the same)

L31 ANSWER 7 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:113239 HCAPLUS
DN 136:168808
ED Entered STN: 12 Feb 2002
TI π-Conjugated polymer-inorganic **particle** composites with excellent thermal stability and electric conductivity and **rubber** compositions containing them
IN Maruyama, Tsukasa; Kirino, Yoshiaki; Ishikawa, Kazunori
PA Yokohama Rubber Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L101-00
ICS C08K005-42; C08K009-06; C08L021-00
CC 39-9 (Synthetic **Elastomers** and Natural **Rubber**)
Section cross-reference(s): 37
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002047429	A2	20020212	JP 2000-238888	20000802
PRAI	JP 2000-238888		20000802		

AB The composites, giving tires with good wet grip properties and low cost, contain inorg. **particles**, π-conjugated polymers containing organic

acid dopants, and **silane** compds. selected from R23-n(R1O)nSiXNHR3, R23-n(R1O)nSiXSaXSi(OR1)nR23-n, and R23-n(R1O)nSiXSbR4 (R1 = Me, Et; R2 = alkyl, aryl; R3 = H, alkyl, aryl; X = alkylene; n = 1-3; a = 2-6; b = 1-6). Thus, a composition containing 137.5 parts Nipol 1712 (SBR) and 80 parts a polyaniline-**SiO2** composite prepared from aniline 5, **SiO2** treated with 3-(N-phenyl)aminopropyltrimethoxysi lane 100, and HCl 5.6 g was vulcanized to give a test piece showing tanδ 0.431 at 0°, elec. conductivity 7.8 + 10-5 S/cm, surface resistivity 8.2 + 105 Ω/.box., and good abrasion resistance.

ST elec cond conjugated polymer composite; antistaticity polyaniline **silica composite filler** SBR; thermal stability polyaniline composite **rubber** tire; phenylaminopropyltrimethoxysi lane coupler treatment **silica** polypyrrole composite

IT Polyanilines
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(HCl-doped; composites of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

IT Styrene-butadiene **rubber**, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(Nipol 1712; composites of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

IT Conducting polymers
(composites of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

IT **Rubber**, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(composites of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

IT Coupling agents
(**silane**; **composites** of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

IT Antistatic agents
(π-conjugated polymers; composites of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

IT 25233-30-1P, Polyaniline
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(HCl-doped; composites of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

IT **7631-86-9**, Nipsil VN 3, properties
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(colloidal, treated with **silane** couplers; **composites** of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

IT **13463-67-7**, **Titanium oxide**, uses
RL: TEM (Technical or engineered material use); USES (Uses)

(composites of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

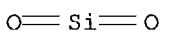
IT 1760-24-3, 3-(2-Aminoethyl)aminopropyltrimethoxysilane 3068-76-6, 3-(N-Phenyl)aminopropyltrimethoxysilane 4420-74-0, 3-Mercaptopropyltrimethoxysilane 40372-72-3, Bis[3-(triethoxysilyl)propyl]tetrasulfide
RL: TEM (Technical or engineered material use); USES (Uses)
(coupler; composites of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

IT 7647-01-0, Hydrochloric acid, uses 27176-87-0, Dodecylbenzenesulfonic acid
RL: TEM (Technical or engineered material use); USES (Uses)
(dopant; composites of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

IT 9003-55-8
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(styrene-butadiene **rubber**, Nipol 1712; composites of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

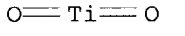
IT **7631-86-9**, Nipsil VN 3, properties
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(colloidal, treated with **silane** couplers; **composites** of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT **13463-67-7, Titanium oxide,** uses
RL: TEM (Technical or engineered material use); USES (Uses)
(composites of elec. conductive conjugated polymers and inorg. **particles** treated with polymerizable **silane** couplers for antistatic **rubber** compns.)

RN 13463-67-7 HCAPLUS
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 8 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:899286 HCAPLUS
DN 137:206401
ED Entered STN: 13 Dec 2001
TI Effect of filler fraction and filler surface treatment on wear of microfilled composites
AU Lim, Bum-Soon; Ferracane, Jack L.; Condon, John R.; Adey, Jerry D.

CS College of Dentistry, Department of Dental Biomaterials, Seoul National University, Seoul, S. Korea
SO Dental Materials (2002), 18(1), 1-11
CODEN: DEMAEP; ISSN: 0109-5641
PB Elsevier Science Ltd.
DT Journal
LA English
CC 63-7 (Pharmaceuticals)
AB The aim of this study was to determine the effect of filler content and surface treatment on the wear of microfilled composites. Four microfilled **composites** with different **filler** contents (A=20, B=25, C=30, and D=35 volume %) were made with a light-cured **resin** (Bis-GMA/UDMA/TEGDMA). The surface treatment of the colloidal **silica** in each varied: F=functional **silane**, NF=non-functional **silane**, U=untreated. Silux Plus served as a control. Specimens were made in steel molds and cured in a light curing unit Triad II (40 s/side). Abrasion and attrition wear were evaluated in vitro in a wear tester (OHSU oral wear simulator) with an abrasive slurry (poppy seeds+PMMA) and a human enamel antagonist. The average of five specimens was computed and compared using a ANOVA/Tukey's test at $P \leq 0.05$. The surface of the wear patterns and the distribution of filler **particles** were examined using a scanning electron microscope and digital imaging. As filler volume increased, wear was reduced regardless of filler treatment. Amts. of wear for specimens C and D were significantly lower than specimens A and B. **Composites** with functional **silane** treated microfiller (Group F) produced significantly less wear than those with non-functional microfiller (Group NF) at 30 and 35 volume %, and less than the untreated microfiller (Group U) at 30 volume %. SEM of specimens of group NF showed large filler agglomerates (size >1 μm) in the **resin** matrix, while specimens of group F and U showed fewer agglomerates. Digital imaging anal. revealed small filler clusters (size ≤1 μm) in the **resin** matrix of all specimens. Wear resistance of microfilled **composites** is enhanced by higher **filler** vols. irresp. of surface treatment, but good filler/matrix adhesion is needed to minimize wear.
ST **filler** dental **composite** surface wear
IT Dental materials and appliances
(**composites**; effect of **filler** fraction and **filler** surface treatment on wear of microfilled composites)
IT Human
Surface treatment
(effect of filler fraction and filler surface treatment on wear of microfilled composites)
IT Dental materials and appliances
(fillings; effect of filler fraction and filler surface treatment on wear of microfilled composites)
IT Wear
(resistance; effect of filler fraction and filler surface treatment on wear of microfilled composites)
IT **7631-86-9**, OX 50, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(colloidal; effect of filler fraction and filler surface treatment on wear of microfilled composites)
IT 109-16-0, TEGDMA 1565-94-2, Bis-GMA 72869-86-4, UDMA
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process);

USES (Uses)
(effect of filler fraction and filler surface treatment on wear of microfilled composites)

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD

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(2) Beatty, M; J Biomed Mater Res 1998, V40, P12 HCAPLUS
(3) Condon, J; Dent Mater 1996, V12, P218 MEDLINE
(4) Condon, J; Dent Mater 1998, V14, P256 MEDLINE
(5) Condon, J; J Biomed Mater Res 1997, V38, P303 HCAPLUS
(6) Condon, J; J Dent Res 1997, V76, P1405 MEDLINE
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(10) Jorgensen, K; Quintessence Int 1978, V9, P73 MEDLINE
(11) Jorgensen, K; Scand J Dent Res 1979, V87, P140 MEDLINE
(12) Lambrechts, P; J Biomed Mater Res 1983, V17, P249
(13) Lutz, F; J Dent Res 1984, V63, P914 MEDLINE
(14) Mair, L; Report of a workshop, J Dent 1996, V24, P141 MEDLINE
(15) Mohsen, N; J Oral Rehabil 1995, V22, P183 MEDLINE
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IT **7631-86-9**, OX 50, processes
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(colloidal; effect of filler fraction and filler surface treatment on wear of microfilled composites)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L31 ANSWER 9 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:621757 HCAPLUS

DN 135:260906

ED Entered STN: 28 Aug 2001

TI Some organic-inorganic composites, illustrative simulations on **elastomer** reinforcement, and an overview of symposium contributions

AU Mark, J. E.

CS Department of Chemistry and the Polymer Research Center, The University of Cincinnati, Cincinnati, OH, 45221-0172, USA

SO Materials Research Society Symposium Proceedings (2001), 661(Filled and Nanocomposite Polymer Materials), KK1.1/1-KK1.1/14
CODEN: MRSPDH; ISSN: 0272-9172

PB Materials Research Society

DT Journal; General Review

LA English
CC 57-0 (Ceramics)
Section cross-reference(s): 38, **39**
AB A review, with refs., first describing organic-inorg. composites which have been prepared using techniques similar to those employed in the new sol-gel approach to ceramics. Organometallics such as silicates, titanates, and aluminates are hydrolyzed in the presence of polymer chains (for example **polysiloxanes** and polyamides) that typically contain hydroxyl groups. The functional groups are used to bond the polymer chains onto the **silica, titania,** or alumina being formed in the hydrolysis, thus forming novel organic-inorg. composites. When the polymer chains are present in excess, they constitute the continuous phase, with the ceramic-type material appearing as reinforcing **particles.** When present in smaller amts., the polymer is dispersed in the continuous ceramic phase, to give a polymer-modified ceramic. Under some conditions, bicontinuous systems are obtained. The second part addresses one of the major unsolved problems in the area of rubberlike elasticity, specifically a mol. understanding of the mechanisms by which the mech. properties of **elastomers** are improved by the incorporation of particulate fillers such as carbon black or **silica.** Theor. work on the reinforcement thus obtained is illustrated by some Monte Carlo calcns. on one aspect of the problem, namely excluded volume effects of the filler **particles** on the network chain configurations. The resulting end-to-end distributions are then used in standard mol. models to generate stress-strain isotherms, which document the nature of the reinforcement obtained. The final part provides an overview of the specific papers presented at this symposium, and attempts to place them into the broad general context of "Filled and Nanocomposite Polymer Materials".
ST org inorg hybrid composite material review; nanocomposite org inorg hybrid material review; ceramic reinforced polymer hybrid material review; polymer modified ceramic hybrid material review
IT Hybrid organic-inorganic materials
Nanocomposites
(ceramic-polymer; organic-inorg. hybrid composites and modeling of mech. properties of **elastomers** reinforced by ceramic)
IT **Rubber,** processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(ceramic-reinforced; organic-inorg. hybrid composites and modeling of mech. properties of **elastomers** reinforced by ceramic)
IT Carbon black, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**filler,** hybrid **composites;** organic-inorg. hybrid **composites** and modeling of mech. properties of **elastomers** reinforced by ceramic)
IT Ceramics
(hybrid composites; organic-inorg. hybrid composites and modeling of mech. properties of **elastomers** reinforced by ceramic)
IT Polyamides, processes
Polymers, processes
Polysiloxanes, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(hybrid **composites;** organic-inorg. hybrid composites and modeling of mech. properties of **elastomers** reinforced by ceramic)
IT 1344-28-1, Aluminum oxide (Al2O3), processes **13463-67-7,** **Titanium oxide** (**TiO2**), processes

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(composites, hybrid; organic-inorg. hybrid composites and modeling of mech. properties of **elastomers** reinforced by ceramic)

IT **7631-86-9, Silica**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**filler**, hybrid **composites**; organic-inorg. hybrid **composites** and modeling of mech. properties of **elastomers** reinforced by ceramic)

RE.CNT 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD

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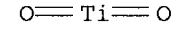
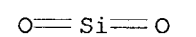
IT **13463-67-7, Titanium oxide (TiO2),** processes
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(composites, hybrid; organic-inorg. hybrid composites and modeling of mech. properties of **elastomers** reinforced by ceramic)
RN 13463-67-7 HCAPLUS
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IT **7631-86-9, Silica,** uses
RL: MOA (Modifier or additive use); USES (Uses)
(**filler,** hybrid **composites**; organic-inorg. hybrid **composites** and modeling of mech. properties of **elastomers** reinforced by ceramic)
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 10 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:431700 HCAPLUS
DN 136:189267
ED Entered STN: 14 Jun 2001
TI Properties of opaque **resin** composite containing coated and silanized titanium dioxide
AU Yoshida, K.; Taira, Y.; Atsuta, M.
CS Department of Fixed Prosthodontics, Nagasaki University School of Dentistry, Nagasaki, 852-8588, Japan
SO Journal of Dental Research (2001), 80(3), 864-868
CODEN: JDREAF; ISSN: 0022-0345
PB International Association for Dental Research
DT Journal
LA English
CC 63-7 (Pharmaceuticals)
AB Titanium dioxide (**TiO2**) is mainly used as a pigment in opaque **resin** composites for application to the surface of a metal framework. The hypothesis in this paper is that **particles** of

silica/alumina (**SiO2**/Al2O3)-coated **TiO2** treated with a **silane** coupling agent could bond effectively with **resin** monomers of opaque **resin** composites. Untreated **TiO2** was used as the control filler. Compressive and flexural strength specimens were prepared by the heat-curing method, because these bulk specimens could not be made by the typical photo-curing method. The treated composite had significantly higher compressive and flexural strengths than the untreated composite after 6 mo' immersion in water. SEM of the fractured composite surfaces showed an interface failure between **TiO2** and **resin** for the untreated composite and cohesive failure within the **resin** for the treated composite after 6 mo' immersion. The light-activated opaque **resin** composite containing treated **TiO2** exhibited significantly higher bond strength to a noble dental alloy after 5000 thermal cycles than that containing untreated **TiO2**. Thus, silanized **SiO2**/Al2O3-coated **TiO2** appears to be clin. useful as a **filler** of opaque **resin composites.**

ST titanium dioxide **silane resin composite** dental alloy

IT Dental materials and appliances
(alloys; properties of opaque **resin** composite containing coated and silanized titanium dioxide)

IT Dental materials and appliances
(composites; properties of opaque **resin** composite containing coated and silanized titanium dioxide)

IT Bending strength
Coating materials
Coating process
Compressive strength
Shear strength
(properties of opaque **resin** composite containing coated and silanized titanium dioxide)

IT 2530-85-0, 3-Trimethoxysilylpropylmethacrylate
RL: MOA (Modifier or additive use); USES (Uses)
(properties of opaque **resin** composite containing coated and silanized titanium dioxide)

IT 1344-28-1, Alumina, biological studies **7631-86-9, Silica**, biological studies **13463-67-7**, Titanium dioxide, biological studies 159835-30-0 172159-20-5, Castwell M.C.12
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(properties of opaque **resin** composite containing coated and silanized titanium dioxide)

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IT **7631-86-9, Silica**, biological studies **13463-67-7**
, Titanium dioxide, biological studies
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(properties of opaque **resin** composite containing coated and silanized titanium dioxide)

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O═Si═O

RN 13463-67-7 HCAPLUS
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

O═Ti═O

L31 ANSWER 11 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:773990 HCAPLUS
DN 133:343700
ED Entered STN: 05 Nov 2000
TI Magnetic recording medium
IN Hayashi, Kazuyuki; Morii, Hiroko; Kamigaki, Mamoru; Ishitani, Seiji
PA Toda Kogyo Corp., Japan
SO Eur. Pat. Appl., 148 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C09C003-12
ICS C09C001-24; G11B005-708
CC 77-8 (Magnetic Phenomena)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1048698	A1	20001102	EP 2000-303434	20000425
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001143241	A2	20010525	JP 1999-326190	19991116
	US 6458453	B1	20021001	US 2000-557881	20000425
	JP 2001014634	A2	20010119	JP 2000-129568	20000428
	JP 2001014635	A2	20010119	JP 2000-129569	20000428
	JP 2001014636	A2	20010119	JP 2000-129570	20000428
PRAI	JP 1999-125109	A	19990430		
	JP 1999-125115	A	19990430		

JP 1999-125116 A 19990430
JP 1999-326190 A 19991116

AB A magnetic recording medium comprising: (a) a nonmagnetic base film; and (b) a magnetic recording layer comprising a binder **resin**, magnetic **particles** and, as a **filler**, black **composite** hematite **particles** which have an average diameter of from 0.08 to 1.0 μm and which comprise: hematite **particles** as core **particles**; a coating layer provided on the hematite **particles**, comprising at least one organosilicon compound selected from: (1) an organosilane compound obtainable from an alkoxysilane compound; (2) a **polysiloxane** or modified **polysiloxane**; and (3) a fluoroalkyl organosilane compound obtainable from fluoroalkylsilane compound; and a carbon black coat provided on said coating layer, in an amount from 1 to 30 parts by weight based on 100 parts by weight of said hematite **particles**.

ST hematite **particle composite polysiloxane** organosilane recording medium; carbon black coating magnetic recording medium

IT **Polysiloxanes**, uses
RL: DEV (Device component use); FMU (Formation, unclassified); TEM (Technical or engineered material use); FORM (Formation, nonpreparative); USES (Uses)
(Me hydrogen; magnetic recording medium with manganese hematite **composite** and **polysiloxane** and organosilane binder and carbon black coating)

IT Binders
Coating materials
Magnetic **particles**
Magnetic recording materials
(magnetic recording medium with manganese hematite **composite** and **polysiloxane** and organosilane binder and carbon black coating)

IT Carbon black, properties
Polyurethanes, properties
RL: DEV (Device component use); FMU (Formation, unclassified); PRP (Properties); TEM (Technical or engineered material use); FORM (Formation, nonpreparative); USES (Uses)
(magnetic recording medium with manganese hematite **composite** and **polysiloxane** and organosilane binder and carbon black coating)

IT **Polysiloxanes**, uses
RL: DEV (Device component use); FMU (Formation, unclassified); TEM (Technical or engineered material use); FORM (Formation, nonpreparative); USES (Uses)
(magnetic recording medium with manganese hematite **composite** and **polysiloxane** and organosilane binder and carbon black coating)

IT 1317-60-8, Hematite, properties 9003-22-9, Vinyl acetate-vinyl chloride copolymer
RL: DEV (Device component use); FMU (Formation, unclassified); PRP (Properties); TEM (Technical or engineered material use); FORM (Formation, nonpreparative); USES (Uses)
(magnetic recording medium with manganese hematite **composite** and **polysiloxane** and organosilane binder and carbon black coating)

IT 9004-73-3, Methylhydrogensiloxane **31692-79-2 31900-57-9**, Dimethylsilanediol homopolymer **31900-57-9D**, Dimethylsilanediol homopolymer, dimethyl(hydroxyalkyl)silyl-terminated 49718-23-2,

Methylhydrogensiloxane **156048-35-0D**, dimethyl(hydroxyalkyl)silyl-terminated **156048-35-0D**, dimethyl(hydroxyalkyl)silyl-terminated
RL: DEV (Device component use); FMU (Formation, unclassified); TEM (Technical or engineered material use); FORM (Formation, nonpreparative); USES (Uses)
(magnetic recording medium with manganese hematite **composite** and **polysiloxane** and organosilane binder and carbon black coating)

IT 78-93-3, Methyl ethyl ketone, formation (nonpreparative) 108-88-3, Toluene, formation (nonpreparative)
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(magnetic recording medium with manganese hematite **composite** and **polysiloxane** and organosilane binder and carbon black coating)

IT 1112-39-6, Dimethyl dimethoxysilane 1185-55-3, Methyl trimethoxysilane 18230-73-4, Methylethoxysilane 18395-30-7, Isobutyl trimethoxysilane
RL: FMU (Formation, unclassified); PRP (Properties); TEM (Technical or engineered material use); FORM (Formation, nonpreparative); USES (Uses)
(magnetic recording medium with manganese hematite **composite** and **polysiloxane** and organosilane binder and carbon black coating)

IT 108-94-1, Cyclohexanone, reactions 123-86-4, Butyl acetate 544-63-8, Myristic acid, reactions 1302-42-7, Sodium aluminate NaAlO2 1344-09-8, Water glass 7429-90-5, Aluminum, reactions **7631-86-9**, **Silica**, reactions 10043-01-3, Aluminum sulfate
RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)
(magnetic recording medium with manganese hematite **composite** and **polysiloxane** and organosilane binder and carbon black coating)

IT 7439-96-5, Manganese, properties
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(magnetic recording medium with manganese hematite **composite** and **polysiloxane** and organosilane binder and carbon black coating)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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(2) Minnesota Mining & Mfg; EP 0176368 A 1986
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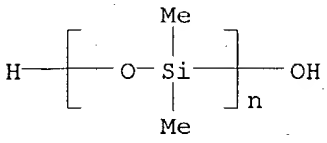
(4) Toda Kogyo Corp; EP 0913431 A 1999 HCAPLUS
(5) Toda Kogyo Corp; EP 0957474 A 1999 HCAPLUS

IT **31692-79-2 31900-57-9**, Dimethylsilanediol homopolymer **31900-57-9D**, Dimethylsilanediol homopolymer, dimethyl(hydroxyalkyl)silyl-terminated **156048-35-0D**, dimethyl(hydroxyalkyl)silyl-terminated
RL: DEV (Device component use); FMU (Formation, unclassified); TEM (Technical or engineered material use); FORM (Formation, nonpreparative); USES (Uses)
(magnetic recording medium with manganese hematite **composite** and **polysiloxane** and organosilane binder and carbon black coating)

RN 31692-79-2 HCAPLUS

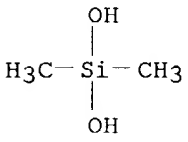
CN Poly[oxy(dimethylsilylene)], α-hydro-ω-hydroxy- (8CI, 9CI) (CA INDEX NAME)



RN 31900-57-9 HCAPLUS
CN Silanediol, dimethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

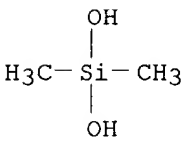
CRN 1066-42-8
CMF C2 H8 O2 Si



RN 31900-57-9 HCAPLUS
CN Silanediol, dimethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

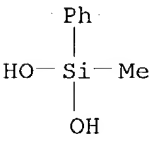
CRN 1066-42-8
CMF C2 H8 O2 Si



RN 156048-35-0 HCAPLUS
CN Silanediol, dimethyl-, polymer with methylphenylsilanediol (9CI) (CA INDEX NAME)

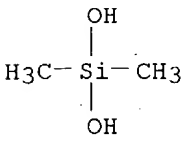
CM 1

CRN 3959-13-5
CMF C7 H10 O2 Si

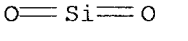


CM 2

CRN 1066-42-8
CMF C2 H8 O2 Si



IT **7631-86-9, Silica**, reactions
RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)
(magnetic recording medium with manganese hematite **composite** and **polysiloxane** and organosilane binder and carbon black coating)
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 12 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:723358 HCAPLUS
DN 133:310593
ED Entered STN: 13 Oct 2000
TI Manufacture of plastic lenses coated by epoxy coatings with good dyeability, durability and no interference fringe
IN Sano, Yoshio
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G02C007-02
ICS C08F002-00; C08F218-00; C08F218-18; C08F290-04; C09D163-00; G02B001-10; C08F222-12
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 63
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2000284237	A2	20001013	JP 1999-95090	19990401
PRAI JP 1999-95090		19990401		

AB The title lenses such as eyeglass lenses have been coated with a hard coating composition containing (i) **particles** with diameter 1-100 μm of composite oxides of Si, Al, Sn, Sb, Ta, Ce, La, Fe, Zn, W, Zr, In, and Ti, (ii) a hydrolyzable organosilane compound bearing polymerizable group and (iii) multifunctional epoxy compound, where the lenses are molded from the polymerization products of 40-89% (meth)allyl-terminated polyester oligomer of phthalic acid-type compound, 10-59% (meth)allyl-terminated polycarbonate oligomer of dialkylene glycol, and 1-30% unsatd. carboxylic acid [optionally halogen-substituted (except F)] benzyl esters. Optionally, an antireflective film which consists of inorg. substances is provided on the

hard coating. Thus, heating a mixture of 60 g ethylene glycol-isophthalic acid oligomer diallyl ester, 30 g diethylene glycol-based polycarbonate oligomer diallyl ester, 10 g dibenzyl fumarate and 3 g diisopropylperoxy dicarbonate between 2 glass panels from 40° to 90° over 20 h, and annealing at 120° for 2 h gave a plastic lens which was coated with a composition containing methyl Cellosolve-dispersed composite **particles** of **TiO2**-Fe2O3-**SiO2** (20% solids), 1853.4, methanol-dispersed **silica** (30% solids) 225, γ-glycidoxypropyltrimethoxysilane 339, (EtO)3SiC3H6OCOOC3H6Si(OEt)3 264.8, 1,6-hexanediol diglycidyl ether 388.7, MeOH 173, dioxane 502.7 g and other additives to give a coated lens.

ST epoxy **silane** birefringence compensation coating plastic lens; allyl terminated oligoester oligocarbonate plastic lens coating; dyeability durability interference fringe redn plastic lens manuf; **composite** metal oxide **particle** epoxy **silane** coating; organosilicon compd epoxy coating plastic eyeglass lens; eyeglass lens plastic allylated oligocarbonate oligoester

IT Oxides (inorganic), uses
RL: MOA (Modifier or additive use); USES (Uses)
(coating filler; manufacture of plastic lenses coated by epoxy coatings with good dyeability, durability and no interference fringe)

IT **Polysiloxanes**, uses
Polysiloxanes, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(epoxy; manufacture of plastic lenses coated by epoxy coatings with good dyeability, durability and no interference fringe)

IT Coating materials
Eyeglass lenses
(manufacture of plastic lenses coated by epoxy coatings with good dyeability, durability and no interference fringe)

IT Epoxy **resins**, uses
Epoxy **resins**, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(**polysiloxane**-; manufacture of plastic lenses coated by epoxy coatings with good dyeability, durability and no interference fringe)

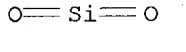
IT 1309-37-1, Iron oxide, uses **7631-86-9**, **Silica**, uses **13463-67-7**, Titanium dioxide, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**composite fillers** with other metal oxides; manufacture of plastic lenses coated by epoxy coatings with good dyeability, durability and no interference fringe)

IT 1306-38-3, Cerium dioxide, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**composite fillers** with **titanium oxide** and silicon oxide; manufacture of plastic lenses coated by epoxy coatings with good dyeability, durability and no interference fringe)

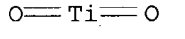
IT 16066-38-9, Dipropylperoxy dicarbonate
RL: CAT (Catalyst use); USES (Uses)
(crosslinking catalyst; manufacture of plastic lenses coated by epoxy coatings with good dyeability, durability and no interference fringe)

IT 156941-04-7P, Glycerol triglycidyl ether-γ-glycidoxypropyltrimethoxysilane copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(crosslinking catalyst; manufacture of plastic lenses coated by epoxy

coatings with good dyeability, durability and no interference fringe)
IT 186137-72-4P 186144-24-1P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(hard coating; manufacture of plastic lenses coated by epoxy coatings with good dyeability, durability and no interference fringe)
IT 302333-46-6P 302333-49-9P
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(manufacture of plastic lenses coated by epoxy coatings with good dyeability, durability and no interference fringe)
IT **7631-86-9, Silica**, uses **13463-67-7**, Titanium dioxide, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**composite fillers** with other metal oxides; manufacture of plastic lenses coated by epoxy coatings with good dyeability, durability and no interference fringe)
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 13463-67-7 HCAPLUS
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 13 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:161404 HCAPLUS
DN 132:197728
ED Entered STN: 10 Mar 2000
TI Abrasive viscoelastic medium for machining and polishing of metal surface
IN Gilmore, James Randall; Rhoades, Lawrence J.
PA Extrude Hone Corporation, USA
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C09K003-14
ICS B24B031-116
CC 56-6 (Nonferrous Metals and Alloys)
Section cross-reference(s): 57
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000012648	A1	20000309	WO 1999-US19681	19990825
	W: AU, BR, CA, CN, KP, KR, MX, RU				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2341737	AA	20000309	CA 1999-2341737	19990825
	AU 9959028	A1	20000321	AU 1999-59028	19990825
	EP 1117749	A1	20010725	EP 1999-946666	19990825
	EP 1117749	B1	20030604		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, FI
TW 500794 B 20020901 TW 1999-88114659 19990826
PRAI US 1998-139642 A 19980826
WO 1999-US19681 W 19990825

AB Abrasive machining without a sealed working chamber is based on the the use of a viscoelastic abrasive composite behaving as elastically deforming solid in rotary or other cyclic working motion for the strain rates with deformation below the associated compressive stress limit, especially in the presence of an intermittent air gap at the working surface. The preferred viscoelastic abrasive is rheopectic poly(borosiloxane) filled with stiffening agents for increased viscosity, as well as with high loadings of the powdered abrasive, and with a minor amount of plasticizers and lubricants. The **particle** size of dispersed abrasive is nominally 1-2000 μm for machining, and 20-100 μm for polishing, especially of Al alloys. The static viscosity of the composite is nominally 2 + 104 to 8 + 106 cP. The abrasive system is operated in an open chamber under applied strain rates with the associated elastic deformation at 50-99% of total, with the balance of deformation by fluid or plastic flow to promote circulation. Engraved coinage dies forged from tool steel with the surface microroughness of 25 μin. were masked on the design surface with epoxy **resin**, and polished by orbital motion at 25 Hz with: (a) the poly(borosiloxane) **composite filled** with powdered B4C abrasive, for 12 min; and (b) the composite containing dispersed diamond powder of 2 μm size, for 16 min, for the polished surface with 0.2 μin. finish.

ST abrasive viscoelastic composite polishing metal; borosiloxane flexible composite abrasive polishing metal; steel die polishing abrasive viscoelastic composite

IT Machining
(abrasive; viscoelastic matrix with powdered abrasives for finish machining of metal surface)

IT Garnet-group minerals
RL: TEM (Technical or engineered material use); USES (Uses)
(abrasives; viscoelastic matrix with powdered abrasives for machining and polishing of metal)

IT Cast alloys
RL: DEV (Device component use); USES (Uses)
(aluminum, polishing of; viscoelastic matrix with powdered abrasives for mech. polishing of cast alloy articles)

IT Wheels
(automotive, polishing of; viscoelastic matrix with powdered abrasives for mech. polishing of cast alloy wheels)

IT **Polysiloxanes**, uses
Polysiloxanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(boroxane-, **composites** with; viscoelastic matrix with powdered abrasive for machining and polishing of metal)

IT Viscoelastic materials
(composites; viscoelastic matrix with powdered abrasive for machining and polishing of metal)

IT Dies
(polishing of; viscoelastic matrix with powdered abrasives for mech. polishing of steel dies)

IT Abrasives
(powdered, composites with; viscoelastic matrix with powdered abrasives for machining and polishing of metal)

IT Boroxanes
Boroxanes

RL: TEM (Technical or engineered material use); USES (Uses)
(siloxane-, composites with; viscoelastic matrix with powdered abrasive for machining and polishing of metal)

IT Aluminum alloy, base
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polishing of; viscoelastic matrix with powdered abrasives for mech. polishing of alloy articles)

IT 1344-28-1, Alumina, uses **7631-86-9, Silica**, uses
7782-40-3, Diamond, uses 12033-89-5, Silicon nitride, uses 12069-32-8, Boron carbide (B4C) 12070-12-1, Tungsten carbide
RL: TEM (Technical or engineered material use); USES (Uses)
(abrasives; viscoelastic matrix with powdered abrasives for machining and polishing of metal)

IT 12597-69-2, Steel, uses
RL: DEV (Device component use); USES (Uses)
(polishing of; viscoelastic matrix with powdered abrasives for mech. polishing of steel dies)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Extrude Hone Ltd; EP 0106507 A 1984

(2) Rhoades, L; US 5125191 A 1992

IT **7631-86-9, Silica**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(abrasives; viscoelastic matrix with powdered abrasives for machining and polishing of metal)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

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L31 ANSWER 14 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:47448 HCAPLUS

DN 132:313641

ED Entered STN: 20 Jan 2000

TI Fracture resistance of experimental glass and glass-ceramic **resin** composites

AU Jones, D. W.; Rizkalla, A. S.; Archibald, T.; Hall, G. C.

CS Div. Biomaterials, Dalhousie University, Halifax, NS, B3H 3J5, Can.

SO Bioceramics, Proceedings of the International Symposium on Ceramics in Medicine (1999), 12, 445-448
CODEN: BPCMFX

PB World Scientific Publishing Co. Pte. Ltd.

DT Journal

LA English

CC 63-7 (Pharmaceuticals)

AB Exptl. composites containing bioactive glass, glass-ceramic and bioactive low temperature fired inorg. fillers (**SiO2**-CaO-P2O5-Na2O) were synthesized by wet chemical Two chemical activated dimethacrylate matrix **resins** were used together with 0 or 30% low mol. weight hydrophilic monomer. **Composites** contained 70 or 65 (wt%) **filler particles** with and without **silane** treatment. Fracture toughness (KIc) (n=5) was performed on specimens following storage in either SBF or distilled water @ 37°C for 30 days. Fracture toughness discriminated between glass-ceramic, glass and low temperature inorg. filler

(P<

0.001). Mean values for **silane** treated glass-ceramic ranged from 1.56 ± 0.41 MPa.m0.5 to 0.4 ± 0.18 MPa.m0.5 for the none **silane** treated **composite**. In contrast values for the glass filler were from 1.39 ± 0.27 MPa.m0.5 for the **silane** treated to 0.42 ± 0.03 MPa.m0.5 for the non-**silane** treated. Mean fracture toughness values for low temperature fired inorg. constituent ranged from 1.03 ± 0.19 MPa.m0.5 for **silane** treated and 0.36 ± 0.28 MPa.m0.5 for non-**silane** treated. No effect due to storage in SBF or distilled water was found.

ST fracture resistance glass ceramic **resin** composite

IT Prosthetic materials and Prosthetics
(bioactive glass; fracture resistance of exptl. glass and glass-ceramic **resin** composites)

IT Biological materials
Glass ceramics
(fracture resistance of exptl. glass and glass-ceramic **resin** composites)

IT **Silanes**
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fracture resistance of exptl. glass and glass-ceramic **resin** composites)

IT Fillers
(inorg.; fracture resistance of exptl. glass and glass-ceramic **resin** composites)

IT Fracture (materials)
(resistance; fracture resistance of exptl. glass and glass-ceramic **resin** composites)

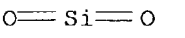
IT 1305-78-8, Calcium Oxide, biological studies 1313-59-3, Sodium oxide (Na2O), biological studies 1314-56-3, Phosphorus oxide (P2O5), biological studies **7631-86-9, Silica,** biological studies
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fracture resistance of exptl. glass and glass-ceramic **resin** composites)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Jones, D; 25th Annual Meeting of the Society for Biomaterials 1999
(2) Jones, D; J Biomed Mat Res V33, P89 HCAPLUS
(3) Jones, D; Proc 11st Inter Symp Ceramics in Medicine 1998, V11, P149 HCAPLUS
(4) Ruse, N; 5th World Biomat Cong 1996

IT **7631-86-9, Silica,** biological studies
RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fracture resistance of exptl. glass and glass-ceramic **resin** composites)

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 15 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:774162 HCAPLUS
DN 132:15677

ED Entered STN: 08 Dec 1999
TI Dental composite **resin** compositions and artificial teeth therefrom
IN Kawaguchi, Satoshi; Hasegawa, Akira
PA GC Dental Products K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM A61K006-083
ICS A61C013-087
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 38
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11335221	A2	19991207	JP 1998-162929	19980526
	EP 962215	A2	19991208	EP 1999-304069	19990526
	EP 962215	A3	20011114		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6196843	B1	20010306	US 1999-320138	19990526
PRAI	JP 1998-162929	A	19980526		

AB The compns. contain (A) ≥1 monomer and/or oligomer selected from methacrylates and acrylates, (B) (a) noncrosslinked homopolymers of methacrylates, acrylates, or styrene, (b) noncrosslinked copolymers of ≥2 selected from methacrylates, acrylates, and styrene, or (c) mixts. of the homopolymers and the copolymers, (C) (a') crosslinked homopolymers of methacrylates, acrylates, or styrene, (b') crosslinked copolymers of ≥2 selected from methacrylates, acrylates, and styrene, or (c') mixts. of the homopolymers and the copolymers, (D) organic-inorg. **composite fillers**, and optionally (E) inorg. **fillers**. Also claimed are artificial teeth prepared by curing the compns. The tooth shows good mech. strength and workability, e.g. in abrasion for correction, because interpenetrating polymer network is formed, and is resistant to discoloration. Me methacrylate 25.32, ethylene glycol dimethacrylate 7.34, poly(Me methacrylate) **particles** 18.23, allyl methacrylate-Me methacrylate copolymer **particles** 26.84, and γ-Methacryloxypropyltrimethoxysilane-Me methacrylate-**silica** copolymer 22.28%, and Bz2O2 were mixed and the resulting paste was heated at 135° and 300 MPa for 15 min to give a cured product. The product showed flexural modulus 3853.1, Brinell hardness 22.05, and Knoop hardness 23.8, vs. 2801.4, 18.35, and 18.2, resp., for a control prepared from Me methacrylate 97, ethylene glycol dimethacrylate 3, and poly(Me methacrylate) 200 parts.

ST dental composite **resin** interpenetrating polymer network artificial teeth; denture composite **resin** interpenetrating polymer network org inorg filler
IT Dental materials and appliances
(composites; dental composite **resin** compns. having interpenetrating polymer network containing organic-inorg. **composite fillers** for artificial teeth)
IT Dental materials and appliances
(dentures; dental composite **resin** compns. having interpenetrating polymer network containing organic-inorg. **composite fillers** for artificial teeth)
IT 25777-71-3P, Ethylene glycol dimethacrylate-methyl methacrylate copolymer 251661-53-7P

RL: PNU (Preparation, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(dental composite **resin** compns. having interpenetrating polymer network containing organic-inorg. **composite fillers** for artificial teeth)

IT 9011-14-7, Poly(methyl methacrylate) 25721-76-0, Poly(ethylene glycol dimethacrylate) 26715-19-5, Allyl methacrylate-methyl methacrylate copolymer
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dental composite **resin** compns. having interpenetrating polymer network containing organic-inorg. **composite fillers** for artificial teeth)

IT **7631-86-9, Silica,** biological studies
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**silane** coupling agent-treated, **filler;** dental **composite resin** compns. having interpenetrating polymer network containing organic-inorg. **composite fillers** for artificial teeth)

IT 2530-85-0, γ-Methacryloxypropyltrimethoxysilane
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**silane** treated with, **filler;** dental **composite resin** compns. having interpenetrating polymer network containing organic-inorg. **composite fillers** for artificial teeth)

IT **7631-86-9, Silica,** biological studies
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**silane** coupling agent-treated, **filler;** dental **composite resin** compns. having interpenetrating polymer network containing organic-inorg. **composite fillers** for artificial teeth)

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

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L31 ANSWER 16 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:772521 HCAPLUS
DN 132:26885
ED Entered STN: 07 Dec 1999
TI Curable dental **resin** compositions with controlled viscosity
IN Sato, Takeshi; Kazama, Hideki; Himeno, Masataka
PA Tokuyama Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM A61K006-08
ICS A61K006-00
CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 38
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11335220	A2	19991207	JP 1998-146082	19980527
PRAI	JP 1998-146082		19980527		

AB The compns., useful for covering dental neck or dental root, contain fillers, preferably with average **particle** size 0.05-1 μm, polymerizable monomers, and polymerization initiators, and show viscosity 3-300 Ps and plastic flow ≤1 mm. The compns. can be applied using a small-tip brush and are free from dropping during application. γ-Methacryloyloxypropyltrimethoxysilane-treated spherical **SiO2**-ZrO2 100, 2,2-bis[4-(methacryloxyethoxy)phenyl]propane 47, triethylene glycol dimethacrylate 20, camphorquinone 0.17, and Et 4-dimethylaminobenzoate were mixed to give a dental filler which had viscosity 22 Ps, plastic flow 0, and flexural strength 129 MPa.

ST dental **composite resin filler** **particle** size viscosity flow distance

IT Dental materials and appliances
(composites; composite **resin** compns. containing **particle** size-controlled fillers with low viscosity and flow distance)

IT Dental materials and appliances
(root-canal **fillers; composite resin** compns. containing **particle** size-controlled fillers with low viscosity and flow distance)

IT 10287-53-3, Ethyl 4-dimethylaminobenzoate 10373-78-1, Camphorquinone 28602-27-9, Dimethylaminobenzaldehyde 33327-41-2
RL: CAT (Catalyst use); USES (Uses)
(composite **resin** compns. containing **particle** size-controlled fillers with low viscosity and flow distance)

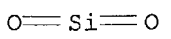
IT 26426-05-1P 99256-93-6P 132612-49-8P
RL: PNU (Preparation, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(composite **resin** compns. containing **particle** size-controlled fillers with low viscosity and flow distance)

IT **7631-86-9, Silica**, biological studies 60676-86-0, Quartz glass
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(composite **resin** compns. containing **particle** size-controlled fillers with low viscosity and flow distance)

IT 174633-44-4, Silicon zirconium oxide
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**silane** coupling agent-treated; **composite resin** compns. containing **particle** size-controlled fillers with low viscosity and flow distance)

IT **7631-86-9, Silica**, biological studies
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(composite **resin** compns. containing **particle** size-controlled fillers with low viscosity and flow distance)

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 17 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:483624 HCAPLUS
DN 132:153123
ED Entered STN: 05 Aug 1999
TI French chalk-wollastonite **composite** mineral **filler** as reinforcement agent for silicone **rubber**
AU Shen, Zhen; Wu, Jihuai
CS Zhejiang Inst. of Technical Supervision and Test, Hangzhou, 310013, Peop. Rep. China
SO Xiangjiao Gongye (1999), 46(6), 343-345
CODEN: XIGOED; ISSN: 1000-890X
PB Xiangjiao Gongye Bianjibu
DT Journal
LA Chinese
CC 39-9 (Synthetic **Elastomers** and Natural **Rubber**)
AB The effect of the **particle** size of French chalk and wollastonite minerals pretreated by ultra-fine grinding and surface modification, the types of crosslinking agent for surface modification of the minerals, and the synergistic effect of the minerals on the mech. properties of silicone **rubber** (SR) was studied. The French chalk and wollastonite ultra-fine powder increased the tensile strength and modulus at a definite elongation of SR. The wollastonite modified by **silane** coupling agent and the French chalk modified by borate showed excellent reinforcement effect for SR. The modified French chalk-wollastonite **composite filler**-reinforced SR had better property than **silica**-reinforced SR and showed comparable tensile strength, tear strength, and resilient values to those of aerosil-reinforced SR.
ST French chalk wollastonite reinforced silicone **rubber**; tensile strength reinforced silicone **rubber**; tear strength reinforced silicone **rubber**; elongation reinforced silicone **rubber**; hardness reinforced silicone **rubber**
IT Soapstone
RL: MOA (Modifier or additive use); USES (Uses)
(French chalk-wollastonite **composite** mineral **filler** as reinforcement agent for silicone **rubber**)
IT Silicone **rubber**, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(French chalk-wollastonite **composite** mineral **filler** as reinforcement agent for silicone **rubber**)
IT Coupling agents
(borates and **silanes**; French chalk-wollastonite **composite** mineral **filler** modified with coupling agents as reinforcement agent for silicone **rubber**)
IT **Particle** size
(of French chalk-wollastonite **composite** mineral **filler** as reinforcement agent for silicone **rubber**)
IT Elongation, mechanical
Hardness (mechanical)
Tensile strength
(of silicone **rubber filled** with French chalk-wollastonite **composite** reinforcement agent)
IT Strength
(tearing; of silicone **rubber filled** with French chalk-wollastonite **composite** reinforcement agent)
IT 13983-17-0, Wollastonite
RL: MOA (Modifier or additive use); USES (Uses)
(French chalk-wollastonite **composite** mineral **filler** as reinforcement agent for silicone **rubber**)

L31 ANSWER 18 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:380571 HCAPLUS
DN 131:33042
ED Entered STN: 21 Jun 1999
TI Formation of pre-coated composite films with designs on metal plates
IN Ikenaga, Yoshiki; Hashizume, Yasuo
PA Nippon Paint Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B05D007-14
ICS B05D003-00; B05D007-24
CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 55
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11156291	A2	19990615	JP 1997-328491	19971128
PRAI	JP 1997-328491		19971128		

AB Title films are formed by spreading metal plates with base coatings containing fillers of 5-1000 μm and **resin** dispersions selected from (silicone-modified) acrylic, fluoro, vinyl chloride **resins** and (silicone-modified) polyesters, baking, and covering with topcoats. A primed and phosphated galvanized steel plate was coated with a Vinysol 10000X-20A (vinyl chloride **resin** sol) containing 20% glass of 5-30 μm and baked at 200° for 60 s to form an uniform surface, which was further topcoated with a plastic sol through a patterned coater to form a title film.
ST metal precoat film design formation; filler base coating precoat film metal
IT **Fillers**
(Formation of pre-coated **composite** films with designs on metal plates)
IT Diatomite
Feldspar-group minerals
Glass, uses
Mica-group minerals, uses
Oxides (inorganic), uses
Silicates, uses
Titanates
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)
(Formation of pre-coated composite films with designs on metal plates)
IT Galvanized steel
Metals, miscellaneous
RL: MSC (Miscellaneous)
(Formation of pre-coated composite films with designs on metal plates)
IT Acrylic polymers, uses
Fluoropolymers, uses
Polyesters, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(Formation of pre-coated composite films with designs on metal plates)
IT **Polysiloxanes**, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in

formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(acrylic; Formation of pre-coated composite films with designs on metal plates)

IT Fluoropolymers, uses
Polyamides, uses
Polyurethanes, uses
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)
(crosslinked **particles**; Formation of pre-coated composite films with designs on metal plates)

IT Coating materials
(multilayer; Formation of pre-coated composite films with designs on metal plates)

IT **Polysiloxanes**, uses
Polysiloxanes, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(polyester-; Formation of pre-coated composite films with designs on metal plates)

IT Vinyl compounds, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(polymers, vinyl chloride-based; Formation of pre-coated composite films with designs on metal plates)

IT Acrylic polymers, uses
Polyesters, uses
Polyesters, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**polysiloxane**-; Formation of pre-coated **composite** films with designs on metal plates)

IT **7631-86-9, Silica**, uses
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)
((colloidal); Formation of pre-coated composite films with designs on metal plates)

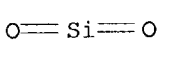
IT 1344-28-1, Aluminum oxide (Al2O3), uses 1344-95-2, Calcium silicate **7727-43-7**, Barium sulfate **14807-96-6**, Talc, uses 14808-60-7, Quartz, uses
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)
(Formation of pre-coated composite films with designs on metal plates)

IT 9002-86-2 226986-72-7, Supercoat 200
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(Formation of pre-coated composite films with designs on metal plates)

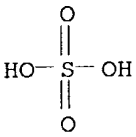
IT 9002-84-0 9011-14-7, PMMA 25014-41-9, Polyacrylonitrile
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)
(crosslinked **particles**; Formation of pre-coated composite films with designs on metal plates)

IT **7631-86-9, Silica**, uses
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical

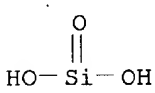
process); POF (Polymer in formulation); PROC (Process); USES (Uses)
((colloidal); Formation of pre-coated composite films with designs on metal plates)
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT **7727-43-7**, Barium sulfate **14807-96-6**, Talc, uses
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)
(Formation of pre-coated composite films with designs on metal plates)
RN 7727-43-7 HCAPLUS
CN Sulfuric acid, barium salt (1:1) (8CI, 9CI) (CA INDEX NAME)



RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)



L31 ANSWER 19 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:183768 HCAPLUS
DN 130:224126
ED Entered STN: 22 Mar 1999
TI Adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices
IN Korleski, Joseph E., Jr.
PA W. L. Gore & Associates, Inc., USA
SO U.S., 22 pp., Cont.-in-part of U.S. 5,753,358.
CODEN: USXXAM
DT Patent
LA English
IC ICM B32B005-18
ICS B32B027-04; B32B027-20; B32B027-32
NCL 428317100

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5879794	A	19990309	US 1996-745396	19961108
	US 5753358	A	19980519	US 1996-591043	19960125
	US 5766750	A	19980616	US 1996-597345	19960206
	JP 08259915	A2	19961008	JP 1996-46315	19960304
	JP 08259764	A2	19961008	JP 1996-46349	19960304
	EP 786505	A2	19970730	EP 1997-300453	19970124
	EP 786505	A3	19981021		
	R: DE, ES, FR, GB, IT, NL, SE				
	JP 10017838	A2	19980120	JP 1997-27229	19970127
PRAI	US 1994-295952		19940825		
	US 1995-398329		19950303		
	US 1995-399702		19950303		
	US 1996-591043		19960125		
	US 1996-597345		19960206		
	US 1996-745396		19961108		

AB Title composite comprises a nonwoven substrate, preferably a fluoropolymer having nodes and interconnected fibrils with a void volume formed from the node and interconnected fibril structure, that is at least partially filled with a paste formed from a thermoset or thermoplastic adhesive and a particulate vapor phase-formed inorg. filler having uniform surface curvature; sufficient adhesive and **filler** are present to provide a **composite** having .apprx.5-40 volume% polymeric substrate, 10-95 volume% adhesive and filler, and 5-85 volume% inorg. filler. In the composite, the ratio of mean flow pore size to largest **particle** size is >0.7; or the ratio of mean flow pore size to average **particle** size is >1.5; or the ratio of min. pore size to average **particle** size is >0.8; or the ratio of min. pore size to largest **particle** size is >0.4. Thus, a swatch of expanded PTFE was dipped into a dispersion of 281.6 g **TiO2** in a 20 weight% solution of Nelco N 4002-5 (flame-retarded dicyanamide/2-methylimidazole-catalyzed bisphenol A-based polyglycidyl ether) in MEK and dried 1 min at 165° under tension to give an adhesive composite comprising **TiO2** 57, PTFE 13, and epoxy adhesive 30 weight%, which was laid up between copper foils and pressed at 600 psi and 225° for 90 min to give a laminate having dielec. constant 19.0 and withstood 30 s solder shock at 280°.

ST adhesive **filler** fluoropolymer film **composite**; epoxy **resin titania** PTFE film adhesive; polytetrafluoroethylene epoxy **resin titania** film adhesive; dielec adhesive film multilayer circuit device

IT Adhesive films
Cellular materials
Electric circuits
Electric insulators
Felts
(adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT Carbon black, uses
RL: MOA (Modifier or additive use); USES (Uses)
(adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT Epoxy **resins**, uses
Silicone **rubber**, uses
RL: TEM (Technical or engineered material use); USES (Uses)

(adhesive; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT Phenolic **resins**, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(cyanate group-containing, adhesives; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT Silicone **rubber**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(di-Me, Me hydrogen, adhesive, Sylgard 4105; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(expanded or nonwoven substrate; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT Coupling agents
(in adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT Fluoropolymers, uses
Polyolefins
Synthetic fibers
Synthetic polymeric fibers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(nonwoven substrate; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT Plastics, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(thermoplastics, adhesive; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT Plastics, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(thermosetting, adhesive; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT 173452-35-2, Primaset PT 30
RL: MOA (Modifier or additive use); USES (Uses)
(adhesive; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT 25068-38-6, Nelco N 4002-5 25085-99-8, RSL 1462
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(adhesive; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT 9003-17-2, Polybutadiene 9003-55-8, R 104 68508-55-4, BT 2060BJ
RL: TEM (Technical or engineered material use); USES (Uses)
(adhesive; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT 2530-83-8, Dynasylan GLYMO
RL: MOA (Modifier or additive use); USES (Uses)
(coupling agent; in adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT 80-05-7, Bisphenol A, uses
RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agent for cyanated phenolic **resin** adhesive; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT 7429-90-5, Aluminum, uses 7440-21-3, Silicon, uses 7440-32-6, Titanium, uses **7631-86-9**, HW 11-89, uses **13463-67-7**,

Titania, uses **13463-67-7**, TI Pure R 900
RL: MOA (Modifier or additive use); USES (Uses)
(**filler**; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT 7440-50-8, Copper, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(foils bonded with; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT 9002-84-0, PTFE 9002-88-4, Polyethylene 9003-07-0, Polypropylene
RL: TEM (Technical or engineered material use); USES (Uses)
(nonwoven substrate; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT **1314-13-2**, **Zinc oxide**, uses 7440-02-0, Nickel, uses
RL: MOA (Modifier or additive use); USES (Uses)
(powder, **filler**; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

IT **156118-35-3**, Dimethylsilanediol-methylsilanediol copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(**rubber**, adhesive; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

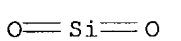
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

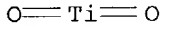
(1) Anon; CA 1213950 1986
(2) Anon; JP 6140328 1986
(3) Anon; JP 62100539 1987 HCAPLUS
(4) Anon; GB 2195269 1990 HCAPLUS
(5) Anon; WO 9320562 1993 HCAPLUS
(6) Anon; "Using GORE-TEX Reduces Signal Delay in PC Board" Electronics 1986
(7) Doss; US 3963850 1976 HCAPLUS
(8) Gore; US 3953566 1976
(9) Gore; US 4187390 1980
(10) Knappenberger; US 4231916 1980
(11) Landi; US 3407249 1968 HCAPLUS
(12) Leverett; US 3929721 1975 HCAPLUS
(13) Morozumi; US 4143110 1979
(14) Odgen; US 4038244 1977 HCAPLUS
(15) Pratt; US 4241132 1980 HCAPLUS
(16) Pufahl; US 4169184 1979 HCAPLUS

IT **7631-86-9**, HW 11-89, uses **13463-67-7**, **Titania**, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**filler**; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)

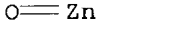
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 13463-67-7 HCAPLUS
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



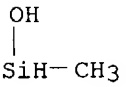
IT **1314-13-2, Zinc oxide,** uses
RL: MOA (Modifier or additive use); USES (Uses)
(powder, **filler;** adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)
RN 1314-13-2 HCAPLUS
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)



IT **156118-35-3,** Dimethylsilanediol-methylsilanediol copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(**rubber,** adhesive; adhesive- and **filler**-impregnated film **composite** for multilayer circuit devices)
RN 156118-35-3 HCAPLUS
CN Silanediol, dimethyl-, polymer with methylsilanediol (9CI) (CA INDEX NAME)

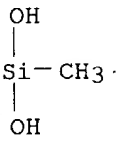
CM 1

CRN 43641-90-3
CMF C H6 O2 Si



CM 2

CRN 1066-42-8
CMF C2 H8 O2 Si



L31 ANSWER 20 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:149116 HCAPLUS
DN 131:9550
ED Entered STN: 09 Mar 1999
TI Elastic properties of experimental bioactive glass composites
AU Jones, D. W.; Rizkalla, A. S.; Routledge, T.; Hall, G. C.
CS Div. Biomaterials, Dalhousie University, Halifax, NS, B3H 3J5, Can.
SO Bioceramics, Proceedings of the International Symposium on Ceramics in Medicine (1998), 11, 149-152
CODEN: BPCMFX
PB World Scientific Publishing Co. Pte. Ltd.
DT Journal
LA English

CC 63-7 (Pharmaceuticals)
Section cross-reference(s): 57

AB Dynamic elastic moduli were determined for exptl. **composites** containing bioactive glass **filler** (**SiO2**-CaO-P2O5-Na2O) synthesized by wet chemical The 2 matrix **resins** used contained 2-dimethylaminoethyl methacrylate and camphorquinone ("A" 50% bis-GMA and 50% TEGDMA, and "B" 15% low mol. weight hydrophilic monomer, 42.5% bis-GMA and 42.5% TEGDMA). Filler **particles** with and without **silane** treatment were blended with **resin** "A" and "B" to produce **composite** materials (25-75% **filler** loading). The moduli for unfilled **resins** "A" and "B" were also determined Specimens were stored in SBF at 37° for 4, 8, 14 and 60 days, and in water for 60 days. Composites with matrix "B" exhibited lower modulus for non-**silane** vs. **silane** treated condition for all periods of storage in SBF and water. **Composite** "B" (no-**silane** treatment) had a higher modulus following storage in water compared to SBF for 60 days. **Composite** "B" with **silane** treated **filler** exhibited a reduction in modulus following 4 to 60 days in SBF. Thus, it is important to evaluate mech. properties of bioactive glass/**resin** composites following storage in SBF rather than water.

ST elastic property bioactive glass composite polymethacrylate; bone cement bioactive glass polymethacrylate

IT Prosthetic materials and Prosthetics
(bioactive glass; elastic properties of bioactive glass composites)

IT Medical goods
(bone cements; elastic properties of bioactive glass composites)

IT Prosthetic materials and Prosthetics
(composites, implants; elastic properties of bioactive glass composites)

IT Young's modulus
(elastic properties of bioactive glass composites)

IT 109-16-0D, TEGDMA, polymers 1305-78-8, Calcium oxide, biological studies 1313-59-3, Sodium oxide (Na2O), biological studies 1314-56-3, Phosphorus oxide (P2O5), biological studies 1565-94-2D, Bis-GMA, polymers **7631-86-9, Silica**, biological studies 128796-12-3, 2-(N,N-Dimethylamino)ethyl methacrylate-bis-GMA-TEGDMA copolymer
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(elastic properties of bioactive glass composites)

IT 2530-85-0
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(elastic properties of bioactive glass composites)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Jones, D; Ceram Trans 1995, V63, P87
(2) Jones, D; J Biomed Mater Res (Applied Biomaterials) 1996, V33, P89 HCAPLUS
(3) Kokubo, T; Bioceramics 1991, V4, P113
(4) Kokubo, T; J Biomed Mater Res 1990, V24, P331 HCAPLUS
(5) Rizkalla, A; Brit Ceram Trans 1997, V96, P16 HCAPLUS
(6) Rizkalla, A; J Biomed Mater Res 1996, V32, P119 HCAPLUS

IT **7631-86-9, Silica**, biological studies
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(elastic properties of bioactive glass composites)

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L31 ANSWER 21 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:435697 HCAPLUS
DN 129:68620
ED Entered STN: 15 Jul 1998
TI Manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic device
IN Korleski, Joseph E.
PA W. L. Gore & Associates, Inc., USA
SO U.S., 12 pp., Cont.-in-part of U. S. Ser. No. 399,702, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC ICM B32B005-16
ICS B32B005-18; B32B027-04; B32B027-20
NCL 428308400
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5766750	A	19980616	US 1996-597345	19960206
	JP 08259915	A2	19961008	JP 1996-46315	19960304
	US 5879794	A	19990309	US 1996-745396	19961108
	EP 786505	A2	19970730	EP 1997-300453	19970124
	EP 786505	A3	19981021		
	R: DE, ES, FR, GB, IT, NL, SE				
	JP 10017838	A2	19980120	JP 1997-27229	19970127
PRAI	US 1994-295952		19940825		
	US 1995-399702		19950303		
	US 1995-398329		19950303		
	US 1996-591043		19960125		
	US 1996-597345		19960206		
	US 1996-745396		19961108		

AB Title **composite** is manufactured by **filling** a mixture containing an adhesive and a particulate filler into voids of an expanded fluoropolymer film having nodes and interconnected fibrils, from which the void is formed. The composite contains 5-40 volume% expanded fluoropolymer substrate, 5-85 volume% inorg. filler and 10-95 volume% adhesive imbibed within the voids of the substrate. In the composite has the ratio of the mean flow pore size of the expanded fluoropolymer to the largest **particle** size of the filler ≥2 and/or the ratio of the min. pore size of the expanded fluoropolymer to the largest **particle** size of the filler is ≥1.4. Thus, a swatch of expanded PTFE was dipped into a dispersion of 281.6 g **TiO2** in 20% Nelco N 4002-5 (flame retarded dicyanamide/2-methylimidazole catalyzed bisphenol A-based polyglycidyl ether) MEK solution, dried for 1 min at 165° to give a composite with 57% **TiO2** and 13% PTFE and 30% epoxy **resin** , several plies of which were laminated between Cu foils, showing dielec. constant 19.0.
ST adhesive **filler** fluoropolymer film **composite**; electronic device fabric fluoropolymer composite; **titanium oxide** filler epoxy adhesive PTFE; copper filler adhesive fabric

PTFE laminate

IT Epoxy **resins**, uses
RL: DEV (Device component use); USES (Uses)
(adhesives; manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic device)

IT Polycyanurates
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(adhesives; manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic device)

IT Silicone **rubber**, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(di-Me, Me hydrogen, adhesives; manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic device)

IT Fluoropolymers, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(film; manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic device)

IT Fluoropolymers, uses
RL: DEV (Device component use); USES (Uses)
(films; manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic device)

IT Adhesives
Composites
Electric apparatus
Fillers
Laminated materials
(manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic device)

IT 9003-55-8, R 104 25068-38-6, N 4002-5 68508-55-4, BT2060BJ
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(adhesive; manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic device)

IT **1314-13-2**, **Zinc oxide**, uses 7440-02-0, Nickel, uses **7631-86-9**, HW 11-89, uses **13463-67-7**, Titanium dioxide, uses **13463-67-7**, TI Pure R 900
RL: MOA (Modifier or additive use); USES (Uses)
(**filler**; manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic device)

IT 9002-84-0, PTFE
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(film; manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic device)

IT 7440-50-8, Copper, uses
RL: DEV (Device component use); USES (Uses)
(fluoropolymer film composite laminated with; manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic device)

IT **156118-35-3**, Dimethylsilanediol-methylsilanediol copolymer
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(**rubber**, adhesive; manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic

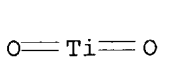
device)
RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Anon; CA 1213950 1986
(2) Anon; JP 6140328 1986
(3) Anon; JP 62100539 1987 HCAPLUS
(4) Anon; GB 2195269 1990 HCAPLUS
(5) Anon; WO 9320562 1993 HCAPLUS
(6) Anon; Electronics 1986
(7) Bowman; US 4482516 1984
(8) Chellis; US 5126192 1992 HCAPLUS
(9) Doss; US 3963850 1976 HCAPLUS
(10) Fushiki; US 4803115 1989 HCAPLUS
(11) Gore; US 4187390 1980
(12) Guth; US 4312914 1982 HCAPLUS
(13) Hatakeyama; US 4784901 1988 HCAPLUS
(14) Johnson; US 4680220 1987
(15) Johnson; US 4747897 1988
(16) Kamper; US 5202177 1993
(17) Kawachi; US 4440879 1984 HCAPLUS
(18) Knappenberger; US 4231916 1980
(19) Knappenberger; US 4293519 1981 HCAPLUS
(20) Komada; US 4772509 1988 HCAPLUS
(21) Landi; US 3407249 1968 HCAPLUS
(22) Leverett; US 3929721 1975 HCAPLUS
(23) Marcora; US 4892669 1990 HCAPLUS
(24) Markovich; US 5055342 1991
(25) Morozumi; US 4143110 1979
(26) Ogden; US 4038244 1977 HCAPLUS
(27) Okada; US 4661301 1987 HCAPLUS
(28) Okada; US 4798762 1989 HCAPLUS
(29) Parekh; US 4437865 1984 HCAPLUS
(30) Pratt; US 4241132 1980 HCAPLUS
(31) Pufahl; US 4169184 1979 HCAPLUS
(32) Sato; US 5087641 1992 HCAPLUS
(33) Sato; US 5141972 1992 HCAPLUS
IT **1314-13-2, Zinc oxide**, uses **7631-86-9**
, HW 11-89, uses **13463-67-7**, Titanium dioxide, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**filler**; manufacture of fluoropolymer film **composite**
containing adhesive and **fillers** for electronic device)
RN 1314-13-2 HCAPLUS
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)

O=Zn

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

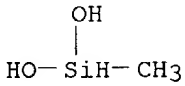
RN 13463-67-7 HCAPLUS
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IT **156118-35-3**, Dimethylsilanediol-methylsilanediol copolymer
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(**rubber**, adhesive; manufacture of fluoropolymer film **composite** containing adhesive and **fillers** for electronic device)
RN 156118-35-3 HCAPLUS
CN Silanediol, dimethyl-, polymer with methylsilanediol (9CI) (CA INDEX NAME)

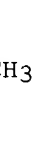
CM 1

CRN 43641-90-3
CMF C H6 O2 Si



CM 2

CRN 1066-42-8
CMF C2 H8 O2 Si



L31 ANSWER 22 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:352585 HCAPLUS
DN 129:16855
ED Entered STN: 11 Jun 1998
TI Adhesive-**filler** fluoropolymer film **composite** for electronic device
IN Korleski, Joseph E.
PA W. L. Gore & Associates, Inc., USA
SO U.S., 12 pp., Cont.-in-part of U.S. Ser. No. 398.329, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC ICM B32B005-16
ICS B32B005-18; B32B027-04; B32B027-20
NCL 428308400
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5753358	A	19980519	US 1996-591043	19960125
	JP 08259764	A2	19961008	JP 1996-46349	19960304
	US 5879794	A	19990309	US 1996-745396	19961108
	EP 786505	A2	19970730	EP 1997-300453	19970124
	EP 786505	A3	19981021		
	R: DE, ES, FR, GB, IT, NL, SE				
	JP 10017838	A2	19980120	JP 1997-27229	19970127
PRAI	US 1994-295952		19940825		
	US 1995-398329		19950303		
	US 1995-399702		19950303		
	US 1996-591043		19960125		
	US 1996-597345		19960206		
	US 1996-745396		19961108		

AB The composite comprises an expanded fluoropolymer with nodes and interconnected fibrils, the fluoropolymer having a void volume which is partially filled with a mixture containing a thermoset or thermoplastic adhesive and a particulate inorg. filler. The **composite** material contains sufficient adhesive and **filler** such that the **composite** contains 5-40 volume percent an expanded fluoropolymer; 5-85 volume percent an inorg. filler; and 10-95 volume percent of an adhesive and filler, the adhesive and filler being contained within the voids of the expanded fluoropolymer. In the composite, the ratio of the mean flow pore size of the expanded fluoropolymer to the largest **particle** size of the filler is ≥2 and/or the ratio of the min. pore size of the expanded fluoropolymer to the largest **particle** size of the filler is ≥1.4. Thus, a composite, for preparation of laminate with Cu, was prepared by dipping an expanded PTFE in a solution of 20% Nelco N 4002-5 (flame retarded dicyanamide/2-methylimidazole catalyzed bisphenol A-based polyglycidyl ether) containing **TiO2** (TI Pure R 900) and dried to give a sample having 57% **TiO2** and 13% PTFE. and 30% epoxy **resin**.

ST fluoropolymer adhesive laminate filled epoxy; **titanium oxide** filler epoxy adhesive laminate; PTFE foam laminate composite elec device

IT Adhesive films
Electric apparatus
(adhesive-**filler** fluoropolymer film **composite** for electronic device)

IT Fluoropolymers, uses
Polysiloxanes, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(adhesive-**filler** fluoropolymer film **composite** for electronic device)

IT Epoxy **resins**, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(adhesives; adhesive-**filler** fluoropolymer film **composite** for electronic device)

IT Silicone **rubber**, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(di-Me, Me hydrogen, Sylgard 4105, adhesives; adhesive-**filler** fluoropolymer film **composite** for electronic device)

IT 9002-84-0, PTFE 51350-55-1, Phenyltrimethoxysilane homopolymer, sru

68508-55-4, BT 2060BJ 89885-26-7, Phenyltrimethoxysilane homopolymer
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(adhesive-**filler** fluoropolymer film **composite** for electronic device)

IT **1314-13-2, Zinc oxide,** uses 7440-02-0, Nickel, uses **7631-86-9,** HW 11-89, uses **13463-67-7,** Titanium dioxide, uses **13463-67-7,** TI Pure R 900
RL: MOA (Modifier or additive use); USES (Uses)
(adhesive-**filler** fluoropolymer film **composite** for electronic device)

IT 9003-55-8, R 104 25068-38-6, N 4002-5
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(adhesives; adhesive-**filler** fluoropolymer film **composite** for electronic device)

IT **156118-35-3,** Dimethylsilanediol-methyl hydrogen silanediol copolymer
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(**rubber,** adhesives; adhesive-**filler** fluoropolymer film **composite** for electronic device)

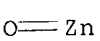
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

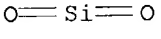
(1) Anon; CA 1213950 1986
(2) Anon; JP 6140328 1986
(3) Anon; JP 62100539 1987 HCAPLUS
(4) Anon; GB 2195269 1988 HCAPLUS
(5) Anon; WO 9320562 1993 HCAPLUS
(6) Anon; Electronics 1986
(7) Bowman; US 4482516 1984
(8) Chellis; US 5126192 1992 HCAPLUS
(9) Doss; US 3963850 1976 HCAPLUS
(10) Fischer; US 5034801 1991
(11) Fushiki; US 4803115 1989 HCAPLUS
(12) Gore; US 4187390 1980
(13) Hatakeyama; US 4784901 1988 HCAPLUS
(14) Johnson; US 4680220 1987
(15) Johnson; US 4747897 1988
(16) Kawachi; US 4440879 1984 HCAPLUS
(17) Knappenberger; US 4231916 1980
(18) Knappenberger; US 4293519 1981 HCAPLUS
(19) Komada; US 4772509 1988 HCAPLUS
(20) Landi; US 3407249 1968 HCAPLUS
(21) Leverett; US 3929721 1975 HCAPLUS
(22) Marcora; US 4892669 1990 HCAPLUS
(23) Markovich; US 5055342 1991
(24) Morozumi; US 4143110 1979
(25) Ogden; US 4038244 1977 HCAPLUS
(26) Okada; US 4661301 1987 HCAPLUS
(27) Okada; US 4798762 1989 HCAPLUS
(28) Parekh; US 4437865 1984 HCAPLUS
(29) Pratt; US 4241132 1980 HCAPLUS
(30) Pufahl; US 4169184 1979 HCAPLUS
(31) Sato; US 5087641 1992 HCAPLUS
(32) Sato; US 5141972 1992 HCAPLUS

IT **1314-13-2, Zinc oxide,** uses **7631-86-9**, HW 11-89, uses **13463-67-7,** Titanium dioxide, uses

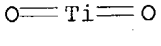
RL: MOA (Modifier or additive use); USES (Uses)
(adhesive-**filler** fluoropolymer film **composite** for electronic device)
RN 1314-13-2 HCAPLUS
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)



RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



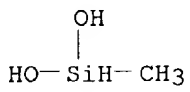
RN 13463-67-7 HCAPLUS
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



IT **156118-35-3,** Dimethylsilanediol-methyl hydrogen silanediol copolymer
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(**rubber,** adhesives; adhesive-**filler** fluoropolymer film **composite** for electronic device)
RN 156118-35-3 HCAPLUS
CN Silanediol, dimethyl-, polymer with methylsilanediol (9CI) (CA INDEX NAME)

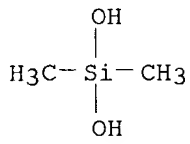
CM 1

CRN 43641-90-3
CMF C H6 O2 Si



CM 2

CRN 1066-42-8
CMF C2 H8 O2 Si



L31 ANSWER 23 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:274837 HCAPLUS
DN 128:312955
ED Entered STN: 13 May 1998
TI Dental curable compositions as restorative composite **resins**
IN Ono, Toru; Kusano, Shoji; Yuasa, Shigeki
PA Tokuyama Soda Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM A61K006-08
ICS A61K006-083
CC 63-7 (Pharmaceuticals)
FAN.CNT 1

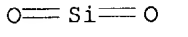
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 10114616	A2	19980506	JP 1996-272252	19961015
PRAI JP 1996-272252		19961015		

AB The compns. contain (a) polymerizable monomers, (b) inorg. fillers having average **particle** size 0.01-1 μm, (c) **composite** polymer **fillers** with yellowness ≤20 containing inorg. fillers having average **particle** size 0.01-1 μm, and (d) polymerization initiators, in which (b) + (c) and (d) are 100-1000 and 0.1-5 weight parts per 100 weight parts (a), and (b)/(c) is 0.2-3. The compns. provide cured products showing high transparency, good lubricity on the buff-polished surface, and good mech. property. A 300:100 mixture of **SiO2**-ZrO2 **particles** pretreated with γ-methacryloyloxypropylmethoxysilane and bis-GMA-3G mixture containing Bz2O2 was heated at 95° for 1, and the cured product was crushed and milled to give a **composite filler**, which was treated with a mixture of EtOH and an aqueous H2O2 solution under reflux for decoloration. The **composite filler** was mixed with **silane**-treated **SiO2**-ZrO2 **particles** and bis-GMA-3G mixture containing polymerization initiators, and the mixture was irradiated to give a cured product.
ST dental restorative material **composite filler** yellowness; **resin composite** dental inorg **filler** polymer
IT Dental materials and appliances
(**composites**; dental **composites** comprising monomers, inorg. **fillers**, **composite fillers** with low yellowness, and polymerization initiators)
IT Bleaching
Decolorization
(of **composite fillers**; dental **composites** comprising monomers, inorg. **fillers**, **composite fillers** with low yellowness, and polymerization initiators)
IT 1304-28-5P, Barium oxide, biological studies 1314-23-4P, Zirconia, biological studies **7631-86-9P**, **Silica**, biological studies **13463-67-7P**, **Titania**, biological studies 26426-05-1P, Bis-GMA-triethylene glycol dimethacrylate copolymer
RL: PNU (Preparation, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

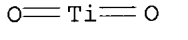
(dental **composites** comprising monomers, inorg. **fillers, composite fillers** with low yellowness, and polymerization initiators)

IT **7631-86-9P, Silica,** biological studies
13463-67-7P, Titania, biological studies
RL: PNU (Preparation, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(dental **composites** comprising monomers, inorg. **fillers, composite fillers** with low yellowness, and polymerization initiators)

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 13463-67-7 HCAPLUS
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 24 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:519680 HCAPLUS
DN 127:177505
ED Entered STN: 15 Aug 1997
TI Electrically insulating composites of porous substrates with adhesives and fillers and their manufacture
IN Korleski, Joseph E., Jr.
PA W.L. Gore & Associates, Inc., USA
SO Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C09J007-04
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 40, 76

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 786505	A2	19970730	EP 1997-300453	19970124
	EP 786505	A3	19981021		
	R: DE, ES, FR, GB, IT, NL, SE				
	US 5753358	A	19980519	US 1996-591043	19960125
	US 5766750	A	19980616	US 1996-597345	19960206
	US 5879794	A	19990309	US 1996-745396	19961108
PRAI	US 1996-591043		19960125		
	US 1996-597345		19960206		
	US 1996-745396		19961108		
	US 1994-295952		19940825		
	US 1995-398329		19950303		
	US 1995-399702		19950303		

AB The composites are prepared by impregnating porous compressible substrates having initial void volume ≥30% and a mean flow pore size with mixts. containing a collection filler particulates having a maximum **particle**

size, a min. **particle** size, and an average **particle** size and adhesives to give composites exhibiting ratio of the mean flow pore size of the substrate to the maximum particulate size ≥0.7, ratio of the mean flow pore size of the substrate to the average particulate size ≥1.4, ratio of the min. pore size of the substrate to the average particulate size ≥0.8, and ratio of the min. pore size of the substrate to the maximum particulate size ≥0.4. The composites are useful for bonding electronic components. A fabric of PTFE fibers was impregnated with a dispersion containing **TiO2** (Ti-Pure R 900) and Nelco N 4002-5(I; bisphenol A epoxy **resin**) and dried to give a composite containing 57% **TiO2**, 13% PTFE fibers, and 30% I. Several of the composite were sandwiched between Cu foils and pressed 90 min at 225° to give a laminate exhibiting dielec. constant 19.0 and good solder shock resistance at 280°.

ST PTFE fiber nonwoven adhesive composite dielec; elec insulator PTFE nonwoven adhesive composite; epoxy **resin** PTFE nonwoven composite dielec; **titania filler** PTFE nonwoven adhesive **composite**; circuit board PTFE nonwoven adhesive composite; **silica filler** PTFE nonwoven adhesive **composite** ; electronic device PTFE nonwoven adhesive composite

IT Epoxy **resins**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(adhesives; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT Metals, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(conductive, laminates with composites; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture for)

IT Phenolic **resins**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(cyanated, adhesives; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT Silicone **rubber**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(di-Me, Me hydrogen, Sylgard 4105, adhesive; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT Adhesives
Cellular materials
Composites
Electric insulators
Foams
Nonwoven fabrics
Sponges (artificial)
(elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT Polyolefin fibers
Polypropene fibers, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT Laminated materials
Printed circuit boards
(elec. insulating composites of porous substrates with adhesives and fillers and their manufacture for)

IT Electric apparatus
(electronic devices; elec. insulating composites of porous substrates

with adhesives and fillers and their manufacture for)

IT Polyolefin fibers
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(ethylene; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT Fluoropolymers, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(fiber, nonwoven; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT Carbon black, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(**filler**; elec. insulating **composites** of porous substrates with adhesives and fillers and their manufacture)

IT Synthetic polymeric fibers, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(fluoropolymers; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT **Fillers**
(inorg. compds.; elec. insulating **composites** of porous substrates with adhesives and fillers and their manufacture)

IT Synthetic fibers
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(nonwoven; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT Fibers
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(organic, nonwoven; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT Polyimides, uses
Polyimides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polycyanurate-, bismaleimide-based, adhesives; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT Polycyanurates
Polycyanurates
RL: TEM (Technical or engineered material use); USES (Uses)
(polyimide-, bismaleimide-based, adhesives; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT Synthetic polymeric fibers, uses
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(tetrafluoroethylene; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT **7631-86-9, Silica**, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(HW 11-89, Admatechs SO-E 2, **filler**; elec. insulating **composites** of porous substrates with adhesives and fillers and their manufacture)

IT 9003-55-8, R 104
RL: TEM (Technical or engineered material use); USES (Uses)
(R-104, adhesive; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT 25085-99-8, RSL 1462
RL: TEM (Technical or engineered material use); USES (Uses)
(RSL 1462, adhesive; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT **13463-67-7**, Titanium dioxide, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(Ti-Pure R 900, **filler**; elec. insulating **composites** of porous substrates with adhesives and fillers and their manufacture)

IT 25068-38-6, Bisphenol A-epichlorohydrin copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(adhesive, Nelco N 4002-5; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT 9003-17-2, Polybutadiene 68508-55-4, BT 2060BH 173452-35-2, Primaset PT 30
RL: TEM (Technical or engineered material use); USES (Uses)
(adhesive; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT 9002-84-0, PTFE
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(fiber, nonwoven; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT 9002-88-4, Polyethylene 25085-53-4, Isotactic polypropylene
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(fiber; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture)

IT 60676-86-0, Fused **silica**
RL: MOA (Modifier or additive use); USES (Uses)
(**filler**; elec. insulating **composites** of porous substrates with adhesives and fillers and their manufacture)

IT **1314-13-2**, **Zinc oxide**, uses 7440-02-0, Nickel, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(**filler**; elec. insulating **composites** of porous substrates with adhesives and fillers and their manufacture)

IT 7440-50-8, Copper, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(laminates with composites; elec. insulating composites of porous substrates with adhesives and fillers and their manufacture for)

IT 7440-44-0, Carbon, uses
RL: MOA (Modifier or additive use); USES (Uses)
(nonconductive, **filler**; elec. insulating **composites** of porous substrates with adhesives and fillers and their manufacture)

IT **156118-35-3**, Dimethylsilanediol-methylsilanediol copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(**rubber**, adhesive; elec. insulating **composites** of porous substrates with adhesives and fillers and their manufacture)

IT **7631-86-9**, **Silica**, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(HW 11-89, Admatechs SO-E 2, **filler**; elec. insulating **composites** of porous substrates with adhesives and fillers and their manufacture)

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O═Si═O

IT **13463-67-7**, Titanium dioxide, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(Ti-Pure R 900, **filler**; elec. insulating **composites** of porous substrates with adhesives and fillers and their manufacture)
RN 13463-67-7 HCAPLUS
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)

O═Ti═O

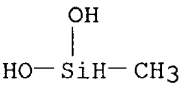
IT **1314-13-2, Zinc oxide**, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(**filler**; elec. insulating **composites** of porous substrates with adhesives and fillers and their manufacture)
RN 1314-13-2 HCAPLUS
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)

O═Zn

IT **156118-35-3**, Dimethylsilanediol-methylsilanediol copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(**rubber**, adhesive; elec. insulating **composites** of porous substrates with adhesives and fillers and their manufacture)
RN 156118-35-3 HCAPLUS
CN Silanediol, dimethyl-, polymer with methylsilanediol (9CI) (CA INDEX NAME)

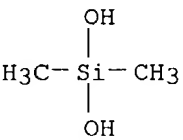
CM 1

CRN 43641-90-3
CMF C H6 O2 Si



CM 2

CRN 1066-42-8
CMF C2 H8 O2 Si



L31 ANSWER 25 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:435335 HCAPLUS
DN 127:66702
ED Entered STN: 12 Jul 1997
TI Manufacture of thermoplastic **resin**-inorganic **filler** **composite** materials
IN Yanagisawa, Kenichi
PA Sumitomo Bakelite Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08K009-06
ICS C08K003-00; C08K005-54; C08L023-08; C08L077-00; C08L101-00; C09C003-12
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09151274	A2	19970610	JP 1995-311215	19951129
PRAI	JP 1995-311215		19951129		

AB The composite materials are obtained by (i) mixing (A) fine powdered **particles** with OH and (B) **silane** coupling agents with ≥1 functional groups to react and cover the A surface with B, (ii) adding (C) thermoplastic **resins** with ≥1 functional groups which are reactive with the functional groups of B and (D) catalysts, and (iii) reacting to immobilize the **resins** on A. Thus, adding 4.2 g A 187 to Aerosil 200 in PhMe, stirring for 3 h at 80°, adding 2-phenylimidazole, removing PhMe, stirring with 100 g 1011FB, and kneading at 250-270° gave a composite. Solid phase NMR showed that the **silane** coupling agent, OH of **SiO2**, and amino group of the polyamide were reacted. The composite was molded to give ASTM D test pieces showing tensile strength 93 MPa, Young's modulus in flexure 2.9 GPa, and heat distortion temperature 142°.

ST inorg **filler** thermoplastic **resin** **composite**; polyamide **silica** **silane** coupling agent **composite**; glycidoxypropyl trimethoxysilane **silica** nylon 6 composite

IT Carbon black, uses
RL: CAT (Catalyst use); USES (Uses)
(manufacture of thermoplastic **resin**-inorg. **filler** **composites** bonded tightly with **silane** coupling agents)

IT Polyamides, uses
RL: POF (Polymer in formulation); USES (Uses)
(manufacture of thermoplastic **resin**-inorg. **filler** **composites** bonded tightly with **silane** coupling agents)

IT 670-96-2, 2-Phenylimidazole 1344-28-1, Alumina, uses 9006-26-2, Ethylene-maleic anhydride copolymer 9010-77-9, Acrylic acid-ethylene copolymer 9011-13-6, Maleic anhydride-styrene copolymer 26061-90-5, Ethylene-glycidyl methacrylate copolymer
RL: CAT (Catalyst use); USES (Uses)
(manufacture of thermoplastic **resin**-inorg. **filler** **composites** bonded tightly with **silane** coupling agents)

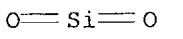
IT 2530-83-8, A 187 **7631-86-9**, Aerosil 200, uses

RL: MOA (Modifier or additive use); USES (Uses)
(manufacture of thermoplastic **resin**-inorg. **filler** **composites** bonded tightly with **silane** coupling agents)

IT 25038-54-4, 1011FB, uses
RL: POF (Polymer in formulation); USES (Uses)
(manufacture of thermoplastic **resin**-inorg. **filler** **composites** bonded tightly with **silane** coupling agents)

IT **7631-86-9**, Aerosil 200, uses
RL: MOA (Modifier or additive use); USES (Uses)
(manufacture of thermoplastic **resin**-inorg. **filler** **composites** bonded tightly with **silane** coupling agents)

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 26 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:303022 HCAPLUS
DN 126:278360
ED Entered STN: 12 May 1997
TI High thermal-conductive **composite** spherical **particles** as **fillers** for sealing semiconductor devices
IN Hirano, Tatsuro; Ino, Shigeki; Shiobara, Toshio
PA Tatsumori Kk, Japan; Shinetsu Chem Ind Co
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08K003-00
ICS C01B033-18; C08K009-00; C08L083-04
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 76
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09059425	A2	19970304	JP 1995-242481	19950828
	JP 3144281	B2	20010312		
PRAI	JP 1995-242481		19950828		

OS MARPAT 126:278360
AB Title **particles** with average **particle** size 3-85 μm are manufactured by granulating and calcining **particles** with heat conductivity ≥5 w/mK and average **particle** size ≤10 μm. Thus, a slurry containing alumina and KBM 04 [Si(OMe)4] was spray dried, calcined, and coated with KBM 13 [MeSi(OMe)3] to give **particles** with heat conductivity 31 w/mK. An epoxy **resin** composition containing the filler showed good heat conductivity, moisture-resistance, and flowability.
ST thermal cond alumina **composite particle filler** ; sealing thermal cond alumina filler semiconductor; spherical alumina filler **silane** binder coating; epoxy **resin** moisture resistance flowability filler
IT Electronic packaging materials
Fillers

Semiconductor materials
Water-resistant materials
(high thermal-conductive **composite** spherical **particles** as **fillers** for moisture-resistant sealing compns. for semiconductor devices)

IT Epoxy **resins**, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(high thermal-conductive **composite** spherical **particles** as **fillers** for moisture-resistant sealing compns. for semiconductor devices)

IT **Silanes**
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(high thermal-conductive **composite** spherical **particles** as **fillers** for moisture-resistant sealing compns. for semiconductor devices)

IT Coupling agents
(**silanes**, **fillers** coated with; high thermal-conductive **composite** spherical **particles** as **fillers** for moisture-resistant sealing compns. for semiconductor devices)

IT Binders
(**silanes**, for **fillers**; high thermal-conductive **composite** spherical **particles** as **fillers** for moisture-resistant sealing compns. for semiconductor devices)

IT Plastics, properties
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(thermoplastics, **fillers** coated with; high thermal-conductive **composite** spherical **particles** as **fillers** for moisture-resistant sealing compns. for semiconductor devices)

IT **7631-86-9**, **Silica**, properties
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(Crystalite; high thermal-conductive **composite** spherical **particles** as **fillers** for moisture-resistant sealing compns. for semiconductor devices)

IT 681-84-5, KBM 04
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(binder for **fillers**; high thermal-conductive **composite** spherical **particles** as **fillers** for moisture-resistant sealing compns. for semiconductor devices)

IT 1185-55-3, KBM 13 2530-83-8, KBM 403
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**fillers** coated with; high thermal-conductive **composite** spherical **particles** as **fillers** for moisture-resistant sealing compns. for semiconductor devices)

IT 188915-17-5P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(high thermal-conductive **composite** spherical **particles** as **fillers** for moisture-resistant sealing compns. for semiconductor devices)

IT 1344-28-1, Alumina, properties 24304-00-5, Aluminum nitride
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(high thermal-conductive **composite** spherical **particles** as **fillers** for moisture-resistant sealing compns. for semiconductor devices)
IT **7631-86-9, Silica,** properties
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(Crystalite; high thermal-conductive **composite** spherical **particles** as **fillers** for moisture-resistant sealing compns. for semiconductor devices)
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

L31 ANSWER 27 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:867665 HCAPLUS
DN 123:258805
ED Entered STN: 20 Oct 1995
TI Molded addition polymer composites improved in durability through the use of siloxanes
IN Kirtley, Neil
PA Imperial Chemical Industries PLC, UK
SO PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C08F002-44
ICS C08F292-00; C04B026-06; C08K009-06; C08L033-06; C08K005-54; C08L057-00
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9512621	A1	19950511	WO 1994-GB2404	19941102
	W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, FI, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LV, MD, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, TJ, TT, UA, US, UZ, VN				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	CA 2175805	AA	19950511	CA 1994-2175805	19941102
	AU 9480644	A1	19950523	AU 1994-80644	19941102
	AU 691207	B2	19980514		
	EP 726917	A1	19960821	EP 1994-931640	19941102
	EP 726917	B1	19980506		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	CN 1141046	A	19970122	CN 1994-194761	19941102
	AT 165840	E	19980515	AT 1994-931640	19941102
	ES 2116623	T3	19980716	ES 1994-931640	19941102
	CZ 285083	B6	19990512	CZ 1996-1299	19941102
	PL 179781	B1	20001031	PL 1994-314473	19941102
	NO 9601818	A	19960702	NO 1996-1818	19960503
	US 5719220	A	19980217	US 1996-640848	19961004

PRAI GB 1993-22810 A 19931105
WO 1994-GB2404 W 19941102

AB A highly filled, curable composition comprises (A) an addition polymerizable organic liquid, e.g. acrylate **resin**, (B) 20-80% by volume of a finely divided particulate inorg. filler having a weight-average **particle** size <50 μm but not having a BET surface area >30 m2-cm-3, and (C) 0.05-0.5% polydimethylsiloxane for improved resilience to thermal shock and scratch resistance, optionally dispersants and coupling agents. Me methacrylate-based molding compns. containing **silica** and 0.1% poly(dimethylsiloxane) were formed into sink moldings having thermal shock resistance 3200 cycles, impact strength 5.0 kJ/m2, and modulus 8.6 GPa, vs. 50, 6.0, and 8.6, resp., without siloxane additive.

ST siloxane additive polyacrylate molding; polydimethylsiloxane additive polyacrylate molding; polyoxyalkylene siloxane additive polyacrylate molding; thermal shock resistance polyacrylate molding; mar resistance polyacrylate molding

IT Siloxanes and Silicones, properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(molded addition polymer composites improved in durability through the use of siloxanes)

IT Siloxanes and Silicones, properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(polyoxyalkylene-, molded addition polymer composites improved in durability through the use of siloxanes)

IT Polyoxyalkylenes, properties
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(siloxane-, molded addition polymer composites improved in durability through the use of siloxanes)

IT Household furnishings
(sinks, molded addition polymer composites improved in durability through the use of siloxanes)

IT **31900-57-9D**, Dimethylsilanediol homopolymer, trimethylsilyl-terminated **42557-10-8**
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(molded addition polymer **composites** improved in durability through the use of siloxanes)

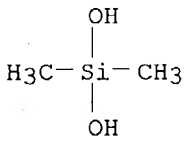
IT 9011-14-7, PMMA
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**silica-filled**; molded addition polymer **composites** improved in durability through the use of siloxanes)

IT **31900-57-9D**, Dimethylsilanediol homopolymer, trimethylsilyl-terminated **42557-10-8**
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(molded addition polymer **composites** improved in durability through the use of siloxanes)

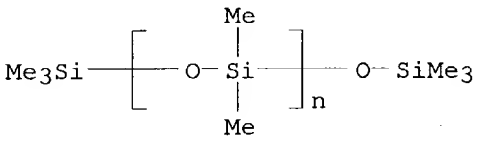
RN 31900-57-9 HCAPLUS
CN Silanediol, dimethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1066-42-8
CMF C2 H8 O2 Si



RN 42557-10-8 HCAPLUS
CN Poly[oxy(dimethylsilylene)], α-(trimethylsilyl)-ω-[(trimethylsilyl)oxy]- (9CI) (CA INDEX NAME)



L31 ANSWER 28 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:78620 HCAPLUS
DN 120:78620
ED Entered STN: 19 Feb 1994
TI Epoxy **resin** powders containing inorganic **particles**
IN Hakata, Toshuki; Horai, Shigeru; Fukugaito, Masaaki; Kakihara, Hiroomi
PA Toda Kogyo Corp, Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L063-00
ICS C08K009-04
ICA C08G059-18
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 74
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05186669	A2	19930727	JP 1992-24442	19920114
	JP 3097710	B2	20001010		
PRAI	JP 1992-24442		19920114		

AB The title composite powders comprise epoxy **resins** and surface-hydrophilically modified inorg. **particles** (to 80-99% content); are covered with other **resins** for a desired surface property; have number-average **particle** diameter 1-1000 μm, and are useful for toner and electromagnetic applications. Mixing NaOH 5.50, bisphenol A 20, epichlorohydrin 10, phthalic anhydride 2.0 and KBM602 coupler-treated magnetite **particles** (average **particle** diameter 0.24 μm) 200 g in 50 mL water while heating at 1.0-1.5°/min to 80°, mixing at the temperature for 1.5 h, filtering, washing and drying gave near-spherical **particles** with number-average **particle** diameter 36.6 μm and saturated magnetization 73.6 emu/g at magnetite **particle** content 86.6%. Coating the **particles** with a melamine **resin** to pickup weight 1.5% gave composite **particles** useful for toner (which has electrostatic property -92 μC/g).

ST electrostatic powder epoxy **resin** composite toner; magnetite **filler** epoxy **resin composite** toner; melamine coated magnetite filler epoxy powder; electromagnetic powder composite epoxy **resin**; **silane** coupler magnetite powder epoxy **composite**

IT Fluoropolymers
Polyamides, uses
Polyesters, uses
Siloxanes and Silicones, uses
RL: USES (Uses)
(composite **particles** with epoxy **resins** and inorg. fillers, for electrostatic or electromagnetic end uses)

IT **Silanes**
RL: USES (Uses)
(couplers, epoxy **resins** filled with inorg. fillers treated by, further coated with other polymers for electrostatic or electromagnetic end uses)

IT Epoxy **resins**, uses
RL: USES (Uses)
(highly-filled with coupler-treated inorg. **particles**, for electrostatic or electromagnetic end uses)

IT Coupling agents
(**silanes**, epoxy **resins** filled with inorg. fillers treated by, further coated with other polymers for electrostatic or electromagnetic end uses)

IT Electrography
(developer toners, composite **particles** of epoxy **resins** and inorg. fillers for, manufacture of)

IT Electrophotographic developers
(toners, composite **particles** of epoxy **resins** and inorg. fillers for, manufacture of)

IT 9003-08-1, Formaldehyde-melamine copolymer 9003-53-6, Himer SB-75 24937-79-9 25014-41-9, Polyacrylonitrile 25038-54-4, Polycaprolactam, uses 25068-38-6, Epiclon 850 143550-03-2, FC 023
RL: USES (Uses)
(composite **particles** with epoxy **resins** and inorg. fillers, for electrostatic or electromagnetic end uses)

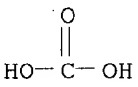
IT 919-30-2, KBE903 2602-34-8, KBE403 3069-29-2, KBM602
RL: USES (Uses)
(couplers, epoxy **resins** filled with inorg. fillers treated by, further coated with other polymers for electrostatic or electromagnetic end uses)

IT **471-34-1**, Calcium carbonate, uses 513-77-9, Barium carbonate 546-93-0, Magnesium carbonate 1309-38-2, Magnetite, uses 1310-14-1, Goethite (Fe(OH)O) **1314-13-2**, Zinc white, uses 1317-60-8, Hematite, uses 1344-28-1, α-Alumina, uses **7727-43-7**, Barium sulfate 11126-22-0, Silicon oxide 11138-11-7, Barium ferrite **13463-67-7**, **Titanium oxide**, uses
RL: USES (Uses)
(epoxy **resins** filled with coupler-treated, further coated with other polymers, for electrostatic or electromagnetic end uses)

IT 110-89-4D, Piperidine, epoxy **resin**-crosslinked 25068-38-6D, Bisphenol A-epichlorohydrin copolymer, piperidine-crosslinked 40989-34-2, Bisphenol A-epichlorohydrin-phthalic anhydride copolymer
RL: USES (Uses)
(highly-filled with coupler-treated inorg. **particles**, for electrostatic or electromagnetic end uses)

IT **471-34-1**, Calcium carbonate, uses **1314-13-2**, Zinc white,

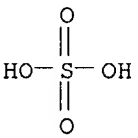
uses **7727-43-7**, Barium sulfate **13463-67-7**, **Titanium oxide**, uses
RL: USES (Uses)
(epoxy **resins** filled with coupler-treated, further coated with other polymers, for electrostatic or electromagnetic end uses)
RN 471-34-1 HCAPLUS
CN Carbonic acid calcium salt (1:1) (8CI, 9CI) (CA INDEX NAME)



● Ca

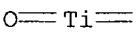
RN 1314-13-2 HCAPLUS
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)

RN 7727-43-7 HCAPLUS
CN Sulfuric acid, barium salt (1:1) (8CI, 9CI) (CA INDEX NAME)



● Ba

RN 13463-67-7 HCAPLUS
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 29 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1992:491512 HCAPLUS
DN 117:91512
ED Entered STN: 05 Sep 1992
TI Particulate epoxy **resins** highly filled with inorganic **particles** and their manufacture
IN Horai, Shigeru; Hakata, Toshiyuki; Toda, Tetsuo
PA Toda Kogyo Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
IC ICM C08G059-18
ICS C08G065-28; C08K009-04; C09C003-10; G03G009-08; G03G009-083; G03G009-113; H01F001-00; H01F001-36
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04011624	A2	19920116	JP 1990-114432	19900427
PRAI	JP 1990-114432		19900427		

AB The title powdered products are obtained by the incorporation of inorg. **particles** having surface being treated with hydrophobic agents while curing an epoxy **resin** composition by alkali in aqueous medium. By this manner, composite **particles** having different sizes can be formed at controlled size distribution. Thus, mixing 50 mL water with NaOH 5.50, bisphenol A 20, epichlorohydrin 10, phthalic anhydride 2.0, and **silane** coupler (KBM-603)-treated (0.5%) magnetite **particles** (A; size 0.24 μm) 200 g, heating at 1.0-1.5°/min to 80°, and stirring for 1.5 h gave nearly-spherical composite **particles** with average size 36.6 μm which contained A 86.6%.

ST highly filled inorg epoxy **resin**; magnetite filled epoxy **resin particle**; aq medium polymn epoxy **resin**; alkali catalyst polymn epoxy **resin**

IT Epoxy **resins**, miscellaneous
RL: PREP (Preparation)
(**composite particles** with inorg. **fillers**, preparation of)

IT **Silanes**
RL: USES (Uses)
(couplers, inorg. **fillers** treated with, for epoxy **resin composite particles**)

IT Spheres
(highly-filled epoxy **resins** as)

IT Coupling agents
(inorg. **fillers** treated with, for epoxy **resin composite particles**)

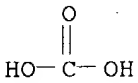
IT **471-34-1**, Calcium carbonate, uses 513-77-9, Barium carbonate 546-93-0, Magnesium carbonate 1306-23-6, Cadmium yellow, uses 1309-38-2, Magnetite, miscellaneous 1310-14-1, Goethite (Fe(OH)O) **1314-13-2**, Zinc white, uses 1317-60-8, Hematite, uses 1344-28-1, α-Alumina, uses **7631-86-9**, **Silica**, uses **7727-43-7**, Barium sulfate 11138-11-7, Barium ferrite 12134-66-6, Maghemite (Fe2O3) **13463-67-7**, **Titanium oxide**, uses
RL: USES (Uses)
(**composite particles** with epoxy **resins**, **silane** couplers for treating)

IT 25068-38-6P, Bisphenol A-epichlorohydrin copolymer
RL: PREP (Preparation)
(**composite particles** with inorg. **fillers**, preparation of)

IT 919-30-2, KBE-903 2602-34-8, KBE 403 3069-29-2, KBM-602 61417-49-0, Plenact TTS
RL: USES (Uses)
(couplers, inorg. **fillers** treated with, for epoxy **resin composite particles**)

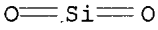
IT **471-34-1**, Calcium carbonate, uses **1314-13-2**, Zinc white, uses **7631-86-9**, **Silica**, uses **7727-43-7**, Barium sulfate **13463-67-7**, **Titanium oxide**, uses
RL: USES (Uses)
(**composite particles** with epoxy **resins**, **silane** couplers for treating)

RN 471-34-1 HCAPLUS
CN Carbonic acid calcium salt (1:1) (8CI, 9CI) (CA INDEX NAME)

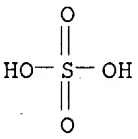


RN 1314-13-2 HCAPLUS
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)

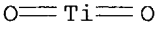
RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 7727-43-7 HCAPLUS
CN Sulfuric acid, barium salt (1:1) (8CI, 9CI) (CA INDEX NAME)



RN 13463-67-7 HCAPLUS
CN Titanium oxide (TiO2) (8CI, 9CI) (CA INDEX NAME)



L31 ANSWER 30 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1992:130257 HCAPLUS
DN 116:130257
ED Entered STN: 03 Apr 1992
TI Melt-state dynamic mechanical properties of polyethylene/EPDM/silicon dioxide composites
AU Scott, C.; Ishida, H.; Maurer, F. H. J.
CS Dep. Macromol. Sci., Case West. Reserve Univ., Cleveland, OH, 44106, USA
SO Journal of Reinforced Plastics and Composites (1991), 10(5), 463-76
CODEN: JRPCDW; ISSN: 0731-6844
DT Journal
LA English
CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): **39**
AB Dynamic mech. spectra of composites of high-d. polyethylene (I), EPDM **rubber**, and silicon powder with an oxidized surface were obtained at 190° with a parallel plate instrument. The dynamic mech. behavior of these composites was significantly influenced by the surface character of **SiO2** powder. Composites of **SiO2** in I displayed higher reinforcing effects than expected based on the properties of the constituent materials assuming spherical **particles**. Treatment of **SiO2** with either (γ-aminopropyl)triethoxysilane (II) or (γ-methacryloxypropyl)trimethoxy silane (III) increased the dynamic shear modulus of these composites. Composites were also made with EPDM and EPDM grafted with maleic anhydride (EPDM-MA) and **SiO2** in I. The **rubber** addition had a significant effect on the properties of the resultant composites. **SiO2** was also treated with II and III before incorporation into multicomponent composites. There was evidence for a reaction between II and EPDM-MA during processing on the roll mill.
ST polyethylene EPDM **silica** composite viscoelasticity; dynamic mech polyethylene EPDM **silica**; surface treatment **silica** composite viscoelasticity; **silane** treatment **silica** **composite** viscoelasticity; maleated EPDM polyethylene **silica** composite
IT Simulation and Modeling, physicochemical
(of dynamic viscoelasticity, in **silica-filled** polyethylene-(maleated) EPDM **rubber composites**)
IT Coupling agents
(**silanes**, **silica** surface treated with, polyethylene-(maleated) EPDM **rubber composites** **filled** with, melt-state dynamic mech. properties of)
IT Viscoelasticity
(dynamic, of **silica-filled** polyethylene-(maleated) EPDM **rubber composites**, in melt state, effect of **filler** surface treatment on)
IT **Rubber**, synthetic
RL: PRP (Properties)
(ethylene-ethylidenenorbornene-propene, **silica-filled** polyethylene **composites**, melt-state dynamic mech. properties of, filler surface treatment effect on)
IT **Rubber**, synthetic
RL: PRP (Properties)
(ethylene-ethylidenenorbornene-propene, maleated, **silica-filled** polyethylene **composites**, melt-state dynamic mech. properties of, filler surface treatment effect on)
IT 9002-88-4, HDPE
RL: PRP (Properties)
(high-d., **silica-filled** (maleated) EPDM

rubber composites, melt-state dynamic mech. properties of, filler surface treatment effect on)

IT **7631-86-9, Silica**, uses
RL: USES (Uses)
(polyethylene-(maleated) EPDM **rubber composites filled** with, melt-state dynamic mech. properties of, filler surface treatment effect on)

IT 25038-36-2, Ethylene-ethylidenenorbornene-propene copolymer
RL: PRP (Properties)
(**rubber, silica-filled** polyethylene **composites**, melt-state dynamic mech. properties of, filler surface treatment effect on)

IT 919-30-2, γ-Aminopropyltriethoxysilane 2530-85-0
RL: PRP (Properties)
(**silica** surface treated with, polyethylene-(maleated) EPDM **rubber composites filled** with, melt-state dynamic mech. properties of)

IT **7631-86-9, Silica**, uses
RL: USES (Uses)
(polyethylene-(maleated) EPDM **rubber composites filled** with, melt-state dynamic mech. properties of, filler surface treatment effect on)

RN 7631-86-9 HCAPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O═Si═O

L31 ANSWER 31 OF 31 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:681183 HCAPLUS
DN 115:281183
ED Entered STN: 27 Dec 1991
TI Characterization of polyethylene/EPDM/silicon dioxide multicomponent composites by solid-state dynamic mechanical spectroscopy
AU Scott, C.; Ishida, H.; Maurer, F. H. J.
CS Dep. Macromol. Sci., Case West. Reserve Univ., Cleveland, OH, 44106, USA
SO Journal of Materials Science (1991), 26(21), 5708-16
CODEN: JMTSAS; ISSN: 0022-2461
DT Journal
LA English
CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): **39**
AB Various composites of polyethylene (I), EPDM **rubber**, and filler are milled and analyzed by solid-state dynamic mech. spectroscopy. The filler used is silicon powder with an oxidized surface as model for **silica**. The torsion pendulum measurements show that the multicomponent composites exhibit complex viscoelastic behavior. For **SiO2**-filled I, there is evidence of **particle-particle** interactions. In **composites** which include I, **rubber**, and **filler**, interactions of the I and especially of the **rubber** with the filler surface are significant. Treatment of the filler surface with γ-aminopropyltriethoxysilane (II) or γ-methacryloxypropyltrimethoxysilane has a significant influence on the resultant composite dynamic mech. spectrum. Maleic anhydride (III) grafting of the EPDM **rubber** also changes the character of the composites. These composites exhibit complex morphologies, which may be

controlled to a certain extent by filler surface treatment and grafting to the **rubber**. A chemical reaction between III modified EPDM and II during processing on the roll mill is evidenced. Prediction of the composite properties using the extended van der Poel model is qual. useful.

ST polyethylene **silica** EPDM **rubber** composite; dynamic viscoelasticity polyethylene **silica** EPDM; **silica silane** treatment polyethylene **composite**; maleated EPDM polyethylene **silica** composite

IT Mechanical loss
(of polyethylene-EPDM-**silica composites**, effects of **filler silane** treatment and **rubber** maleation on)

IT Coupling agents
(**silanes, silica** treated with, polyethylene-EPDM **composites**, dynamic mech. spectroscopic characterization of)

IT **Rubber**, synthetic
RL: USES (Uses)
(EPDM, maleated, polyethylene-**silica** composites, dynamic mech. spectroscopic characterization of)

IT Viscoelasticity
(dynamic, of polyethylene-EPDM-**silica composites**, effects of **filler silane** treatment and **rubber** maleation on)

IT **Rubber**, synthetic
RL: USES (Uses)
(ethylene-ethylidenenorbornene-propene, polyethylene-**silica** composites, dynamic mech. spectroscopic characterization of, effect of **rubber** maleation on)

IT 7440-21-3, Silicon, uses and miscellaneous
RL: USES (Uses)
(filler, as model for oxidized **silica**, polyethylene-EPDM **composite filled** with, dynamic mech. spectroscopic characterization of)

IT 9002-88-4, HDPE
RL: USES (Uses)
(high-d., EPDM-**silica** composites, dynamic mech. spectroscopic characterization of)

IT **7631-86-9, Silica**, properties
RL: PRP (Properties)
(polyethylene-EPDM blend filled with, dynamic mech. spectroscopic characterization of, filler **silane** treatment effect on)

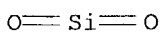
IT 74-85-1
RL: USES (Uses)
(**rubber**, EPDM, maleated, polyethylene-**silica** composites, dynamic mech. spectroscopic characterization of)

IT 25038-36-2, Ethylene-ethylidenenorbornene-propene copolymer
RL: USES (Uses)
(**rubber**, polyethylene-**silica** composites, dynamic mech. spectroscopic characterization of, effect of **rubber** maleation on)

IT **7631-86-9, Silica**, properties
RL: PRP (Properties)
(polyethylene-EPDM blend filled with, dynamic mech. spectroscopic characterization of, filler **silane** treatment effect on)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



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